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ABSTRACT

The purpose of this study was to design an information system for the Missouri Commission on Higher Education that would provide timely information for planning to meet the higher education needs in the state. The system provides planning and information reports, divided into the following subsystems: student information; program information; financial information; personnel information; and facilities information. This system would provide current information and longer term projections for both public and private higher education institutions, including junior colleges, four year colleges and universities. In addition, selected data would be provided on higher education in states surrounding Missouri. (AF)

ED040644

MISSOURI COMMISSION ON HIGHER EDUCATION

SPECIFICATIONS FOR A HIGHER EDUCATION INFORMATION SYSTEM

September 1968

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CRESAP, McCormick + Paget
Management Consultants

MISSOURI COMMISSION ON HIGHER EDUCATION

SPECIFICATIONS FOR A HIGHER EDUCATION INFORMATION SYSTEM

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VIII PLAN OF ACTION

I - INTRODUCTION AND CONCEPTUAL FRAMEWORK

I - INTRODUCTION AND CONCEPTUAL FRAMEWORK

This report describes the proposed management information system which was designed to serve the information needs of the Missouri Commission on Higher Education. The system provides planning and information reports, divided into the following subsystems:

- Student information
- Program information
- Financial information
- Personnel information
- Facilities information.

The basic purpose of the study was to design an information system that would provide timely information for planning to meet the higher education needs of the State of Missouri. This system would provide current information and longer-term projections for both public and private higher education institutions, including junior colleges, four-year colleges and universities. In addition, selected data would be provided on higher education in states surrounding Missouri.

APPROACH

The study included a review of the role and scope of the Commission's functions by examination of available documents and interviews with key Commission personnel. Data currently being collected by the Commission were studied in detail; an assessment was made of the Higher Education General Information Survey (HEGIS) reports; and interviews were held with key officials in the Office of Education of the Department of Health, Education and Welfare. Selected public and private higher education institutions were visited, and their internal information systems for students, programs, finances, personnel and facilities were studied.

As the study progressed, a total systems approach was developed to ensure consideration of sources, types of input data, required output reports and information uses. From this, an information framework was designed, including report elements and criteria. This framework was then reviewed with the Executive Secretary of the Commission and his staff to confirm that information needs were satisfied.

Individual subsystems were then constructed for the functional areas of students, programs, finances, personnel and facilities. Each subsystem consisted of flow charts, planning reports, information reports and record layouts. The subsystems were also reviewed with the Executive Secretary and his functional department heads. A series of visual presentations and discussions were then held with appropriate officials of public and private colleges and universities. Comments were solicited and revisions made to the subsystems as required.

Each subsystem was then integrated into the total systems approach, and a plan for implementation was developed.

CONCEPTUAL FRAMEWORK

As noted, the system was designed to serve the information needs of the Commission, Executive Secretary, and the functional department heads. The types and sources of data considered necessary to satisfy these needs are described in Exhibit I-1 and I-2, following.

Uses Of Information

After determining the needs of the recipients, an analysis was made of the uses of this information. These uses are broadly classified as follows:

- Furnishing of regular reports showing
    - Current status
    - Out-of-control conditions
    - Potential trouble areas
    - Trends (historical, present and projected data)

EXHIBIT I–1

MISSOURI COMMISSION ON HIGHER EDUCATION

INFORMATION SYSTEM

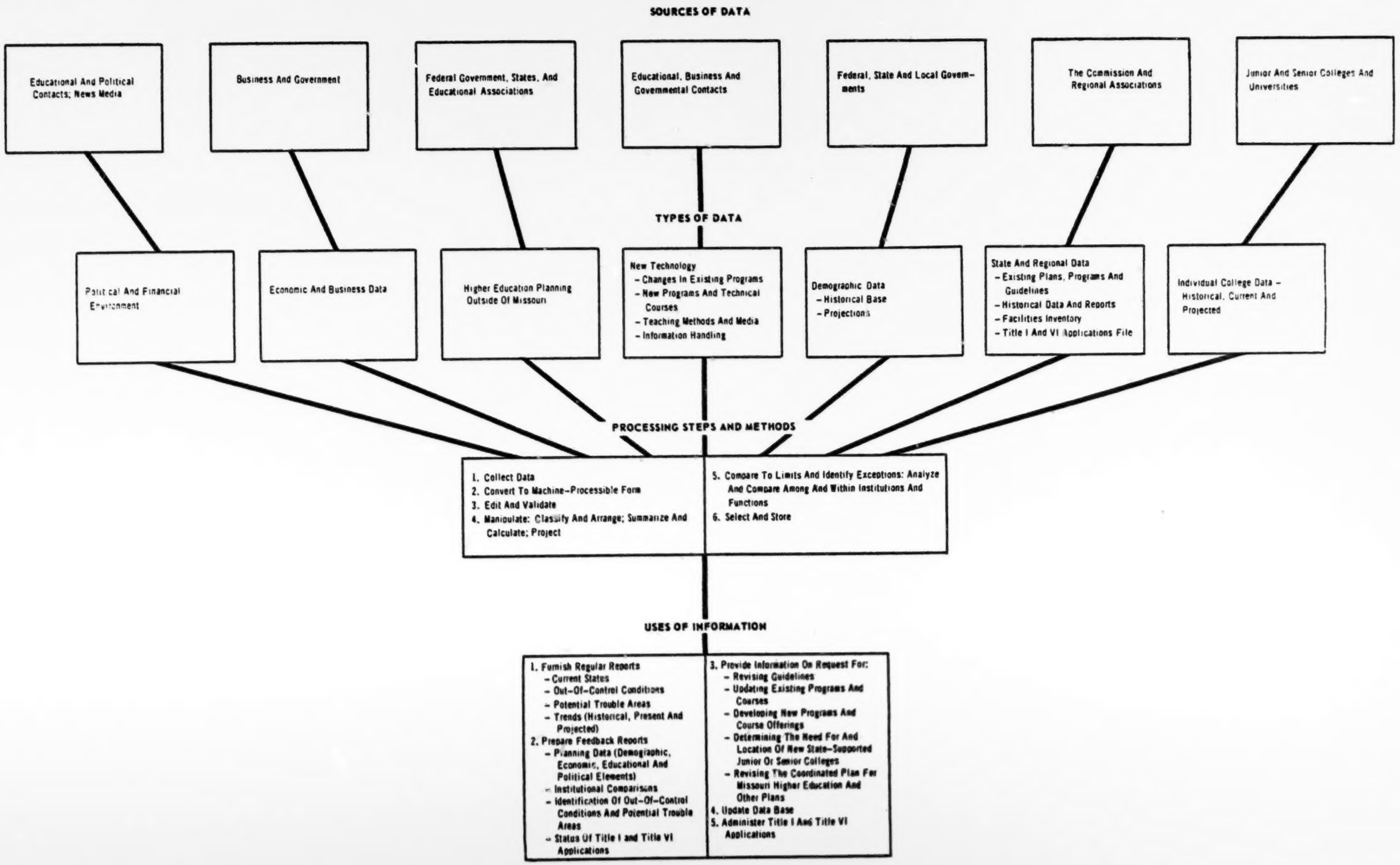

SOURCES OF DATA
Educational And Political Contacts; News Media
Business And Government
Federal Government, States, And Educational Associations
Educational, Business And Governmental Contacts
Federal, State And Local Governments
The Commission And Regional Associations
Junior And Senior Colleges And Universities
TYPES OF DATA
Political And Financial Environment
Economic And Business Data
Higher Education Planning Outside Of Missouri
New Technology
– Changes In Existing Programs
– New Programs And Technical Courses
– Teaching Methods And Media
– Information Handling
Demographic Data
– Historical Base
– Projections
State And Regional Data
– Existing Plans, Programs And Guidelines
– Historical Data And Reports
– Facilities Inventory
– Title I And VI Applications File
Individual College Data – Historical, Current And Projected
PROCESSING STEPS AND METHODS
1. Collect Data
2. Convert To Machine–Processible Form
3. Edit And Validate
4. Manipulate: Classify And Arrange; Summarize And Calculate; Project
5. Compare To Limits And Identify Exceptions: Analyze And Compare Among And Within Institutions And Functions
6. Select And Store
USES OF INFORMATION
1. Furnish Regular Reports
– Current Status
– Out–Of–Control Conditions
– Potential Trouble Areas
– Trends (Historical, Present And Projected)
2. Prepare Feedback Reports
– Planning Data (Demographic, Economic, Educational And Political Elements)
– Institutional Comparisons
– Identification Of Out–Of–Control Conditions And Potential Trouble Areas
– Status Of Title I and Title VI Applications
3. Provide Information On Request For:
– Revising Guidelines
– Updating Existing Programs And Courses
– Developing New Programs And Course Offerings
– Determining The Need For And Location Of New State–Supported Junior Or Senior Colleges
– Revising The Coordinated Plan For Missouri Higher Education And Other Plans
4. Update Data Base
5. Administer Title I And Title VI Applications

EXHIBIT I-2

MISSOURI HIGHER EDUCATION

TYPES AND SOURCES OF DATA

Type	Source
Political and financial environment	Educational and political contacts; news media
Economic and business data	Business and government
Higher education planning outside of Missouri	State and federal governments and educational associations
New technology - Changes in existing programs - New programs and technical courses - Teaching methods and media - Information handling	Educational, business and governmental contacts
Demographic data - Historical base - Projections	State, federal and local governments
State and regional data - Existing plans, programs and guidelines - Historical data and reports - Facilities inventory - Title I and VI applications file	The Commission and regional associations
Individual college data - historical, current and projected	Junior and senior colleges and universities

- Preparation of feedback reports including
    - Planning data (demographic, economic, educational and political
    - Institutional comparisons
    - Identification of out-of-control conditions and potential trouble areas
    - Status of Title I and Title VI applications
- Furnishing of information on request for
    - Revising guidelines (budget, teaching load, facilities)
    - Updating existing programs and courses
    - Developing new programs and course offerings
    - Determining the need for, and location of, new State-supported junior or senior colleges
    - Revising the coordinated plan for Missouri higher education, and other plans as required
- Updating of the data base
- Administration of Title I and Title VI applications.

Processing Steps

The following steps in processing, required to produce the reports and information listed above, were determined:

- Collect data
- Convert to machine processible form
- Edit and validate

- Manipulate
    - Classify and arrange
    - Summarize and calculate
    - Project
    - Compare to limits and identify exceptions
    - Analyze and compare among and within institutions and functions
- Select and store.

Input Form

The system has been designed to permit input in a variety of modes, in order to accommodate varying sizes of institutions and classes of individual institution mechanization capability. Input will be accepted in manual form, on punched cards, on disks or on magnetic tape.

Prime information will be requested in four subsystems, to provide the Commission with maximum flexibility and to minimize individual institution effort in processing data. Individual records will be requested for students, course sections, full-time faculty members, buildings and rooms. Buildings and rooms information is currently available in machine-processible form for all institutions in Missouri.

Other input data would be collected from HEGIS reports, nonfaculty summaries, current budget reports, and surveys from other states. Preparation of the HEGIS reports for student enrollments and personnel would no longer be required of the individual institutions because the Commission would have the necessary data to prepare these reports centrally.

Data Base

The concept of a ten-year moving data base has been developed to provide the historical base for identifying trends and making projections. This base would be extended forward from the date of the system's installation - that is, no attempt would be made to go back and recreate data for previous years. Each year (after ten years), the ten-year-old data would be dropped and the current year's data added to the data base.

Report Selection

The approach to report selection was to consider initially the total number of potential reports, and reduce this to a practical number based upon recipient needs. This was accomplished through careful analysis, and the assignment of report priorities by the Executive Secretary, his staff and the study team.

To determine the variety of potential reports, the major report elements were displayed in three-dimensional figures, as shown in Exhibit I-3. The basic elements contained in reports were determined to be those of purpose, focus and form. Major subdivisions of these basic elements are shown in Exhibit I-3. Report combinations based on these first-level subdivisions would number over 200 varieties. Further subdivision of these elements would result in hundreds of additional reports. This exercise emphasized the need for selectivity in choosing necessary reports. Accordingly, matrixes were established to arrange the various report types for assignment of priority, as displayed in Exhibits I-4 and I-5. These matrixes were reviewed by the Executive Secretary, and modified where appropriate.

Report Design

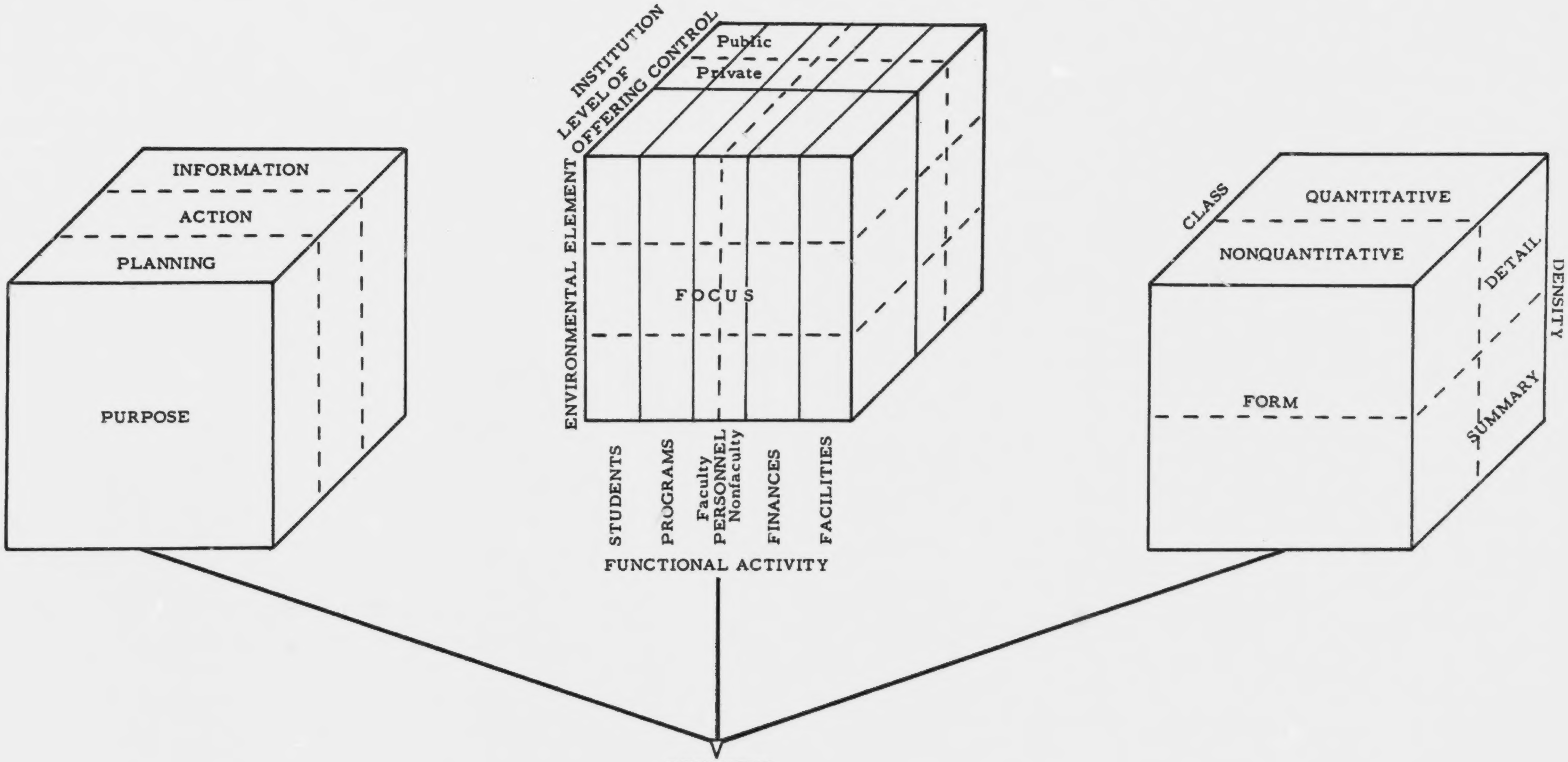
After priorities were determined, the following criteria were established and used in developing and designing the reports:

- They must
    - Serve a need
    - Convey new information
    - Be timely enough to influence future events
    - Be clear and concise
    - Be complete enough to enable action
    - Highlight important information.
- The pyramidal concept must be embodied in the overall report design framework.
- Graphics should be employed wherever appropriate.

EXHIBIT 1-3

MISSOURI HIGHER EDUCATION

REPORT ELEMENTS


INFORMATION
ACTION
PLANNING
PURPOSE
INSTITUTION
LEVEL OF
OFFERING CONTROL
Public
Private
ENVIRONMENTAL ELEMENT
FOCUS
STUDENTS
PROGRAMS
Faculty
PERSONNEL
Nonfaculty
FINANCES
FACILITIES
FUNCTIONAL ACTIVITY
CLASS
QUANTITATIVE
NONQUANTITATIVE
DETAIL
DENSITY
SUMMARY
FORM

RECIPIENT

- **Commission**
- **Executive Secretary**
- **Functional Department Heads**
  - **Assistant Executive Secretary**
  - **Assistant to the Executive Secretary**
  - **Facilities Consultant**
  - **Director of Institutional Research**
- **Colleges and Universities**
- **State Officials**
- **Federal Agencies**

EXHIBIT I–4

MISSOURI HIGHER EDUCATION

PRIORITY OF FUNCTIONAL ACTIVITY, BY PURPOSE AND RECIPIENT

Recipient	Students			Programs			Personnel			Finance			Facilities		
	PLANNING	ACTION	INFORMATION	PLANNING	ACTION	INFORMATION	PLANNING	ACTION	INFORMATION	PLANNING	ACTION	INFORMATION	PLANNING	ACTION	INFORMATION
Commission	1	X	1	2	2	1	1	X	1	1	1	1	1	1	1
Executive Secretary	1	X	1	2	2	1	1	X	1	1	1	1	1	1	1
Functional Departmental Heads															
Assistant Executive Secretary	2	X	1	3	X	2	1	X	1	1	1	1	2	X	2
Assistant To Executive Secretary	1	X	1	2	X	1	3	X	3	X	X	2	X	X	2
Facilities Consultant	3	X	1	3	X	1	3	X	1	1	X	1	1	1	1
Director Of Institutional Research	1	X	1	2	1	1	2	X	1	1	X	1	1	X	1
Colleges And Universities	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
State Officials	X	X	1	X	X	1	X	X	1	1	1	1	X	1	1
Federal Agencies	X	X	1	X	X	1	X	X	1	1	1	1	X	1	1

PRIORITY CODE

1 – High
2 – Medium
3 – Low
X – Not needed

- The value of a report must exceed its cost.

- Exception reporting should be used where feasible.

Potential reports were then measured against these criteria. The reports selected as meeting the criteria were divided by purpose into two general groups - planning and information. Families of reports were then designed, primarily on the basis of the relative importance of individual reports.

Report headings were established in a consistent format to enable the recipients to understand and use the reports effectively. An example in the planning report series would be the use of the same heading, wherever possible, showing data from ten and five years ago, the current year, the next three years individually, and five and ten years from now. Information reports were designed to show comparative information in the same order on all reports - for instance, lists of state colleges.

Every report was designed to provide meaningful and useful information. Other available versions of the same report are listed, where applicable.

II - STUDENT INFORMATION SUBSYSTEM

II - STUDENT INFORMATION SUBSYSTEM

This chapter describes the proposed student information subsystem. This particular subsystem is the most significant one of the five that comprise the management information system, because the data collected for this subsystem is used in each of the other four. The subsystem is focused on reports which will provide data for analysis of the present and future student population of the State. These data include student characteristics, fields of study, degrees awarded, and student attrition in both public and private higher education institutions. No attempt has been made to track individual students or classes.

Individual institutions will be required to submit input records for every student. It is not intended that the subsystem identify each student, but it is important that each student record have a unique identification number for controlling input and other purposes. Other student data, such as demographic and political information, will be furnished by the Commission.

This chapter includes flow charts of the proposed subsystem describing the processing steps and the input and output requirements, planning and information report formats, and input record layouts.

A - FLOW CHARTS

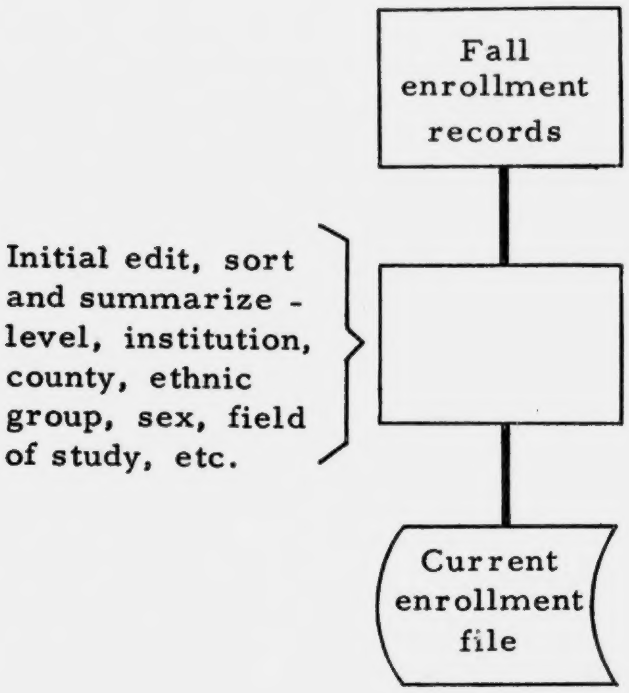
Exhibit Number	
II-1	Creating Initial Files Or Processing Fall Student Data
II-2	Processing Spring Student Data
II-3	Updating Student Enrollment, Attrition, Degree Or Demography History Files
II-4	Processing Planning Reports
II-5	Processing Information Reports

EXHIBIT II-1
Page 1 of 2

MISSOURI HIGHER EDUCATION

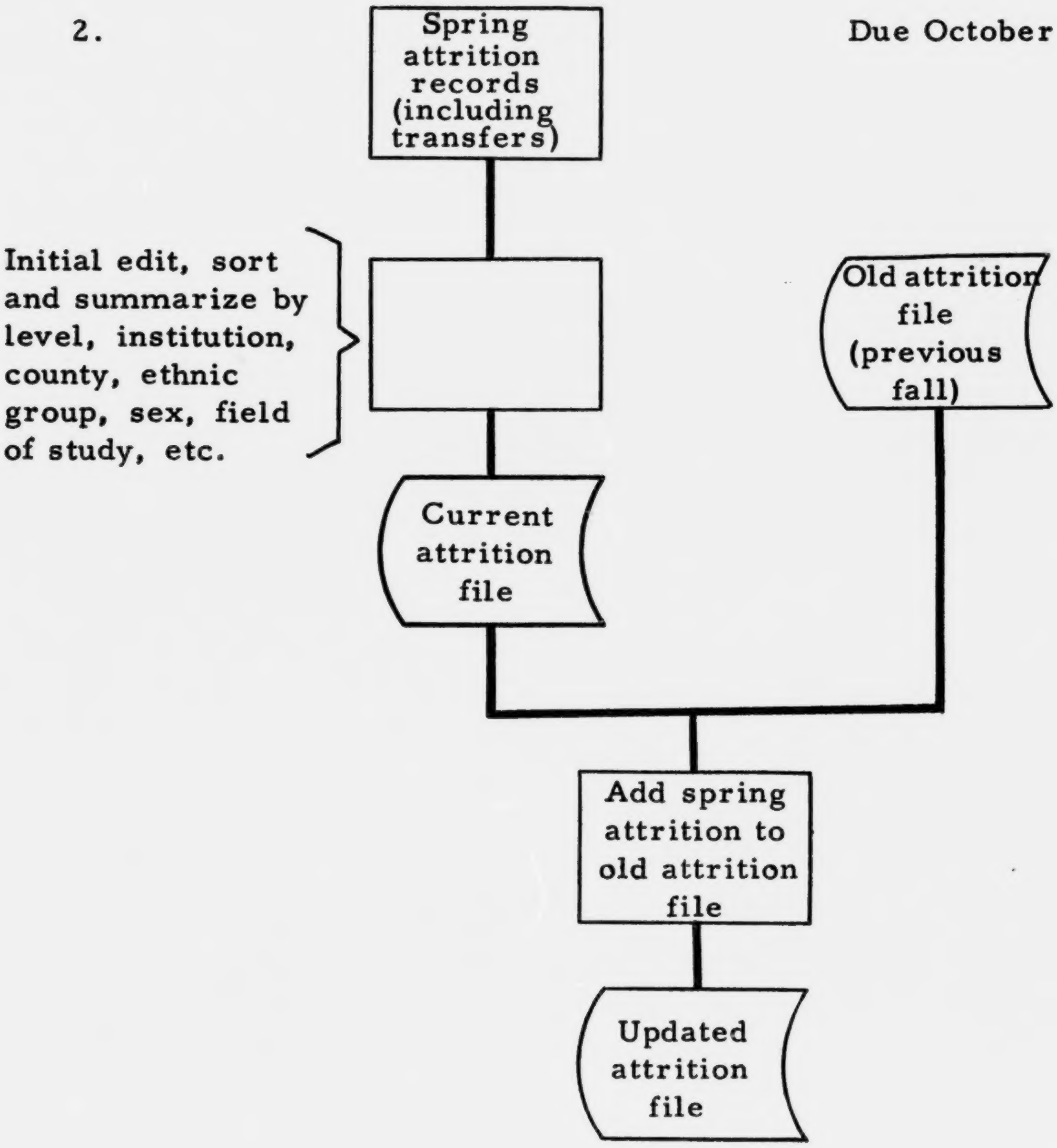
CREATING INITIAL FILES OR PROCESSING FALL STUDENT DATA

1.


Fall enrollment records
Initial edit, sort and summarize - level, institution, county, ethnic group, sex, field of study, etc.
Current enrollment file

Due October 15

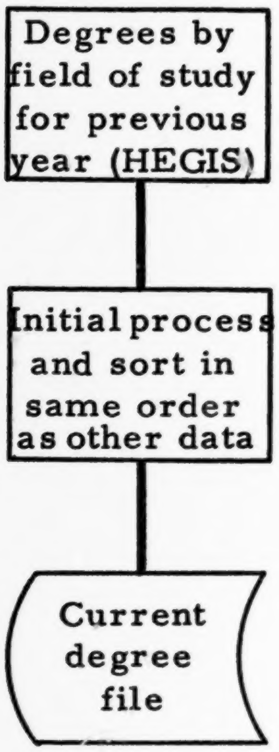
2.


Spring attrition records (including transfers)
Initial edit, sort and summarize by level, institution, county, ethnic group, sex, field of study, etc.
Old attrition file (previous fall)
Current attrition file
Add spring attrition to old attrition file
Updated attrition file

Due October 15

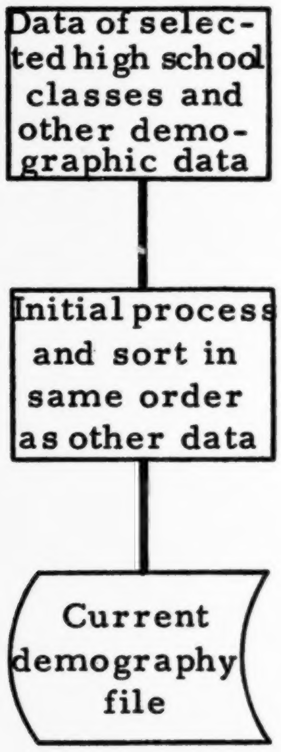
EXHIBIT II-1
Page 2 of 2

3.


Degrees by field of study for previous year (HEGIS)
Initial process and sort in same order as other data
Current degree file

Due September 1

4.


Data of selected high school classes and other demographic data
Initial process and sort in same order as other data
Current demography file

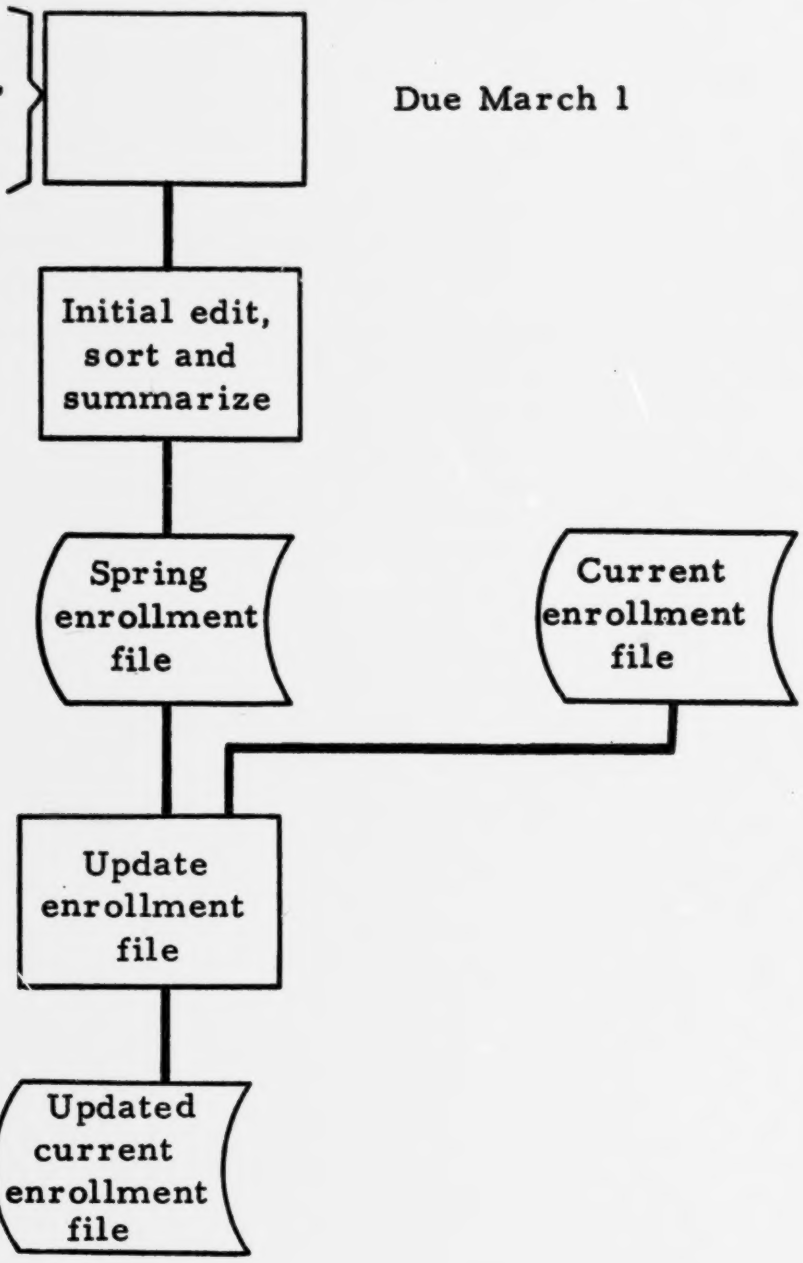
Due June 1

EXHIBIT II-2

MISSOURI HIGHER EDUCATION

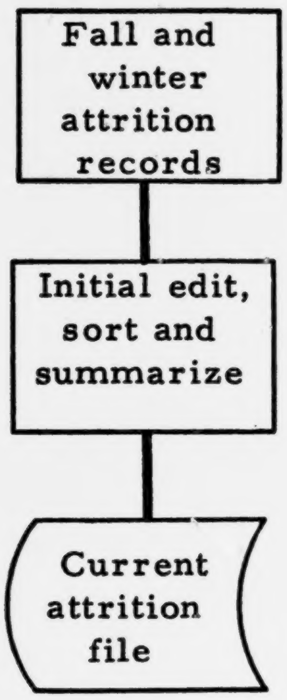
PROCESSING SPRING STUDENT DATA

1. Winter and spring enrollment records, excluding summer session


Initial edit, sort and summarize
Spring enrollment file
Current enrollment file
Update enrollment file
Updated current enrollment file

Due March 1

2.


Fall and winter attrition records
Initial edit, sort and summarize
Current attrition file

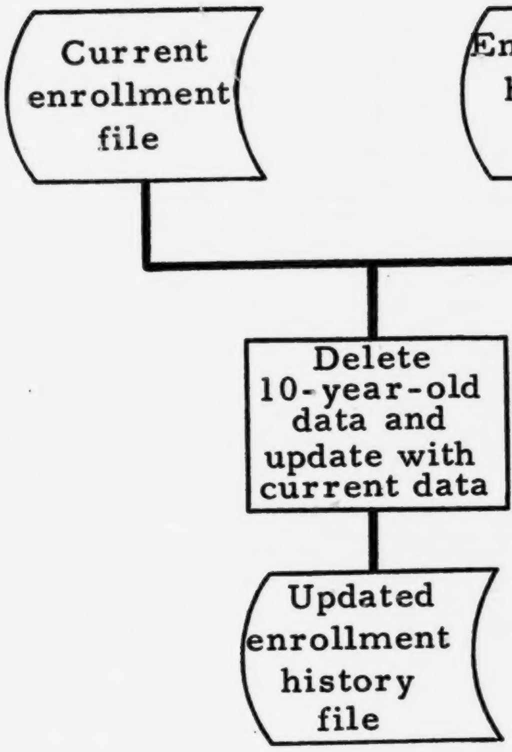
Due March 1
Processing includes fall and winter quarters

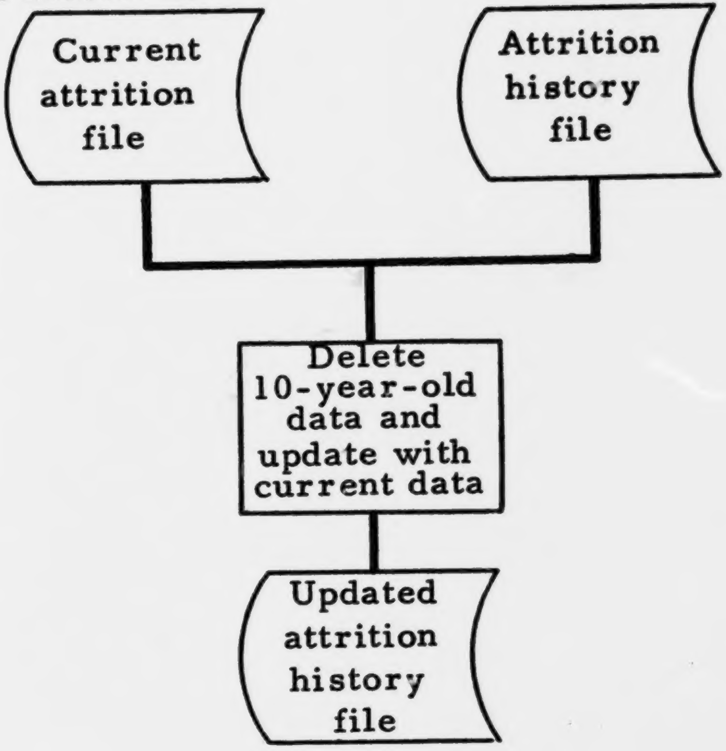
EXHIBIT II-3

MISSOURI HIGHER EDUCATION

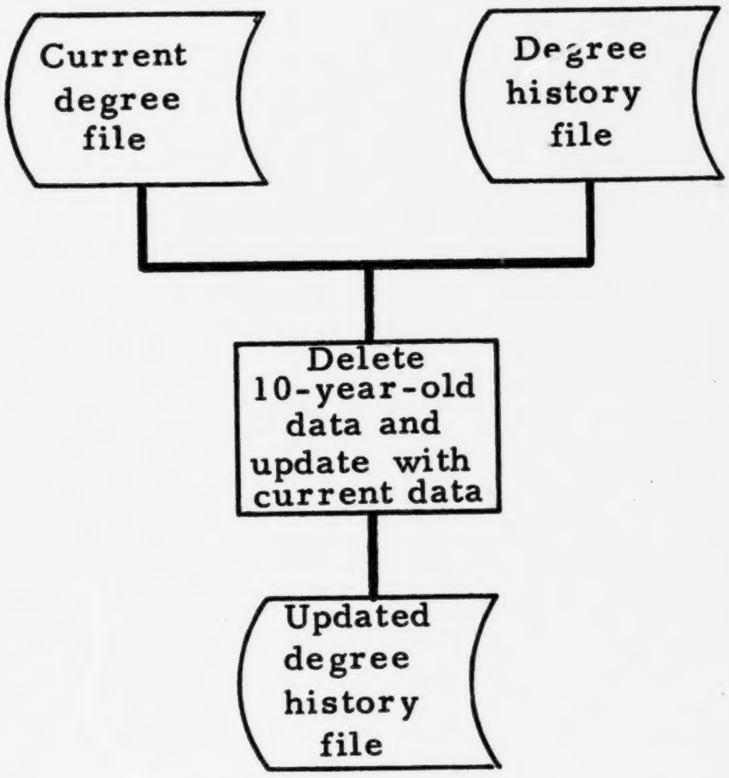
UPDATING STUDENT ENROLLMENT, ATTRITION, DEGREE OR DEMOGRAPHY HISTORY FILES

Due November 1 and March 15


Current enrollment file
Enrollment history file
Delete 10-year-old data and update with current data
Updated enrollment history file


Current attrition file
Attrition history file
Delete 10-year-old data and update with current data
Updated attrition history file

Due November 1 and March 15


Current degree file
Degree history file
Delete 10-year-old data and update with current data
Updated degree history file

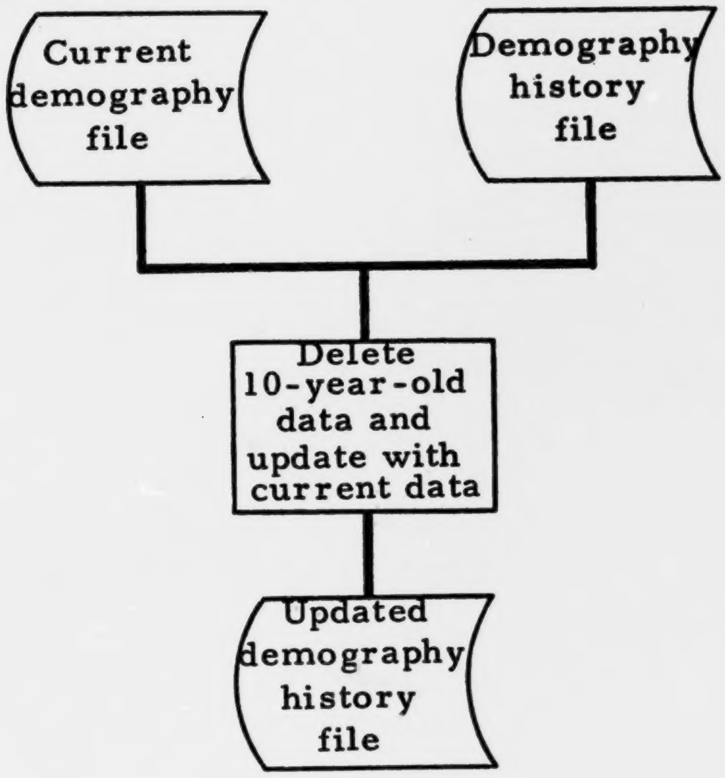

Current demography file
Demography history file
Delete 10-year-old data and update with current data
Updated demography history file

EXHIBIT II-4

MISSOURI HIGHER EDUCATION

PROCESSING PLANNING REPORTS

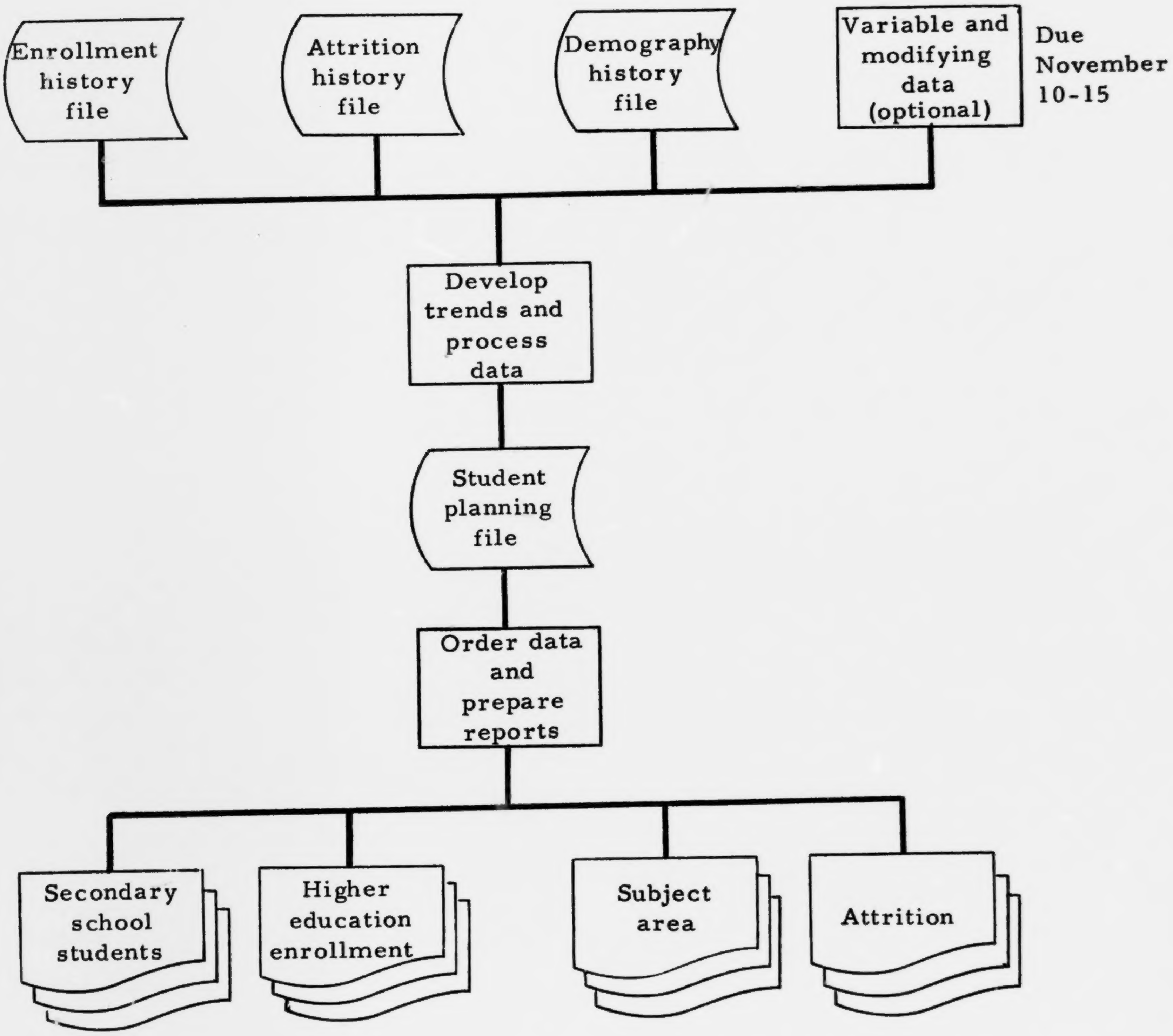
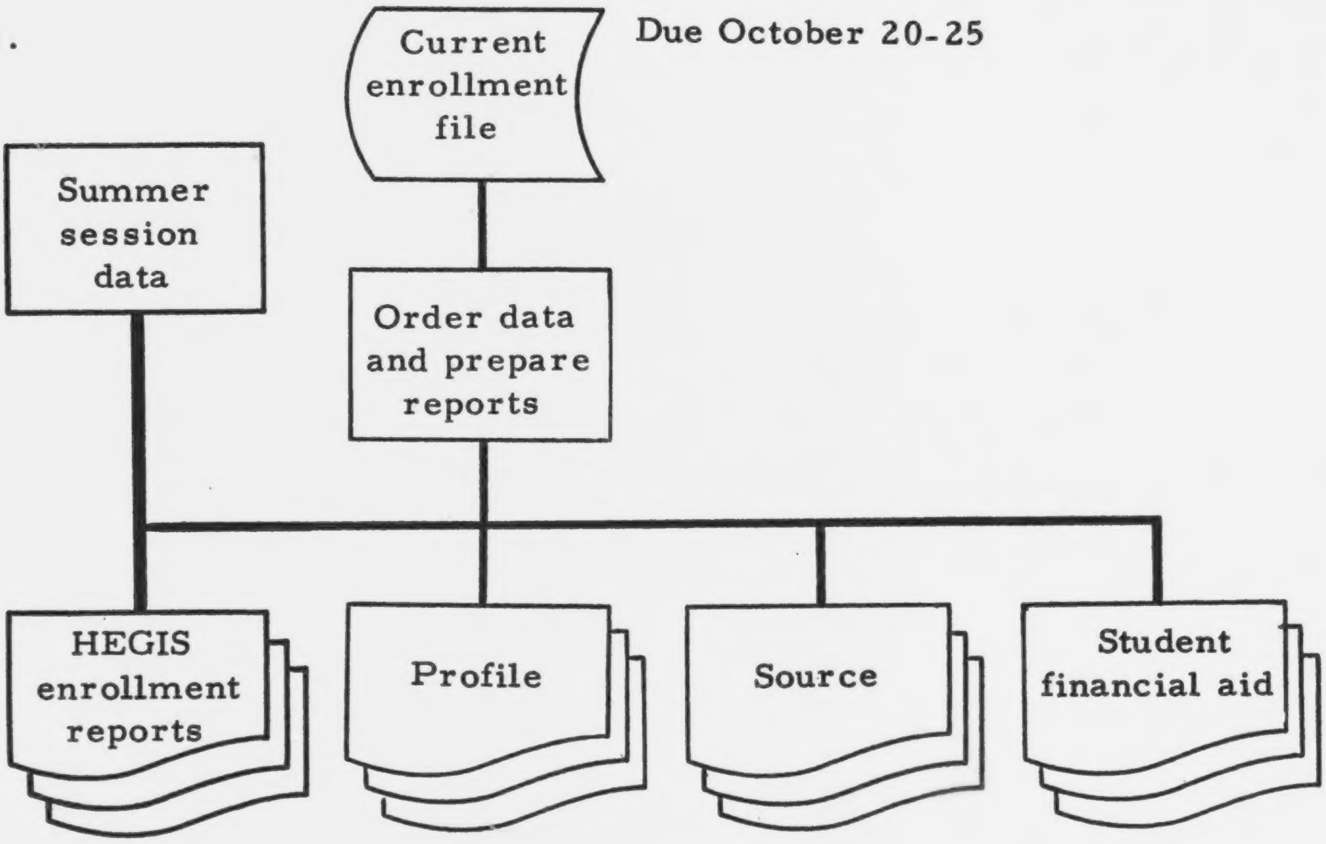

Enrollment history file
Attrition history file
Demography history file
Variable and modifying data (optional)
Due November 10-15
Develop trends and process data
Student planning file
Order data and prepare reports
Secondary school students
Higher education enrollment
Subject area
Attrition

EXHIBIT II-5

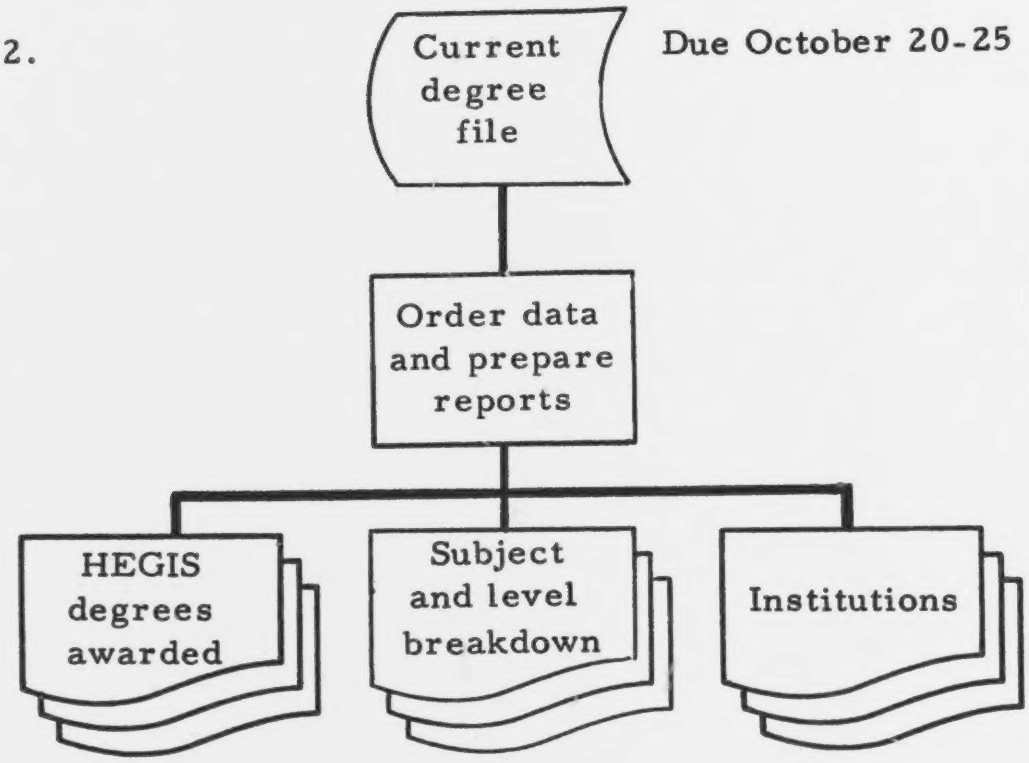
MISSOURI HIGHER EDUCATION

PROCESSING INFORMATION REPORTS

1.


Due October 20-25
Current enrollment file
Summer session data
Order data and prepare reports
HEGIS enrollment reports
Profile
Source
Student financial aid

2.


Due October 20-25
Current degree file
Order data and prepare reports
HEGIS degrees awarded
Subject and level breakdown
Institutions

B - PLANNING REPORTS FOR FUTURE MISSOURI HIGHER EDUCATION

Exhibit Number	
	Secondary School Students
II-6	Secondary School Graduates
	Higher Education Enrollment
II-7	First-Time Freshmen Enrollment, By Level Of Offering
II-8	First-Time Freshmen Enrollment, By Originating Area
II-9	Total Enrollment, By Level Of Offering And Control
II-10	Projected Increase In FTE Students, By Program Level
II-11	Percentage Of Total FTE Students, By Program Level
	Subject Area
II-12	Enrollment, By Subject Area
	Attrition
II-13	Student Attrition
II-14	Student Input-Output Summary

EXHIBIT II-6
Page 1 of 2

MISSOURI HIGHER EDUCATION

SECONDARY SCHOOL GRADUATES

(Number Of Students)

Originating Area And Grade	Past Actual		Current	Projected				
	1958	1963	1968	1969	1970	1971	1973	1978
Kansas City								
Grade 12								
Grade 11								
Grade 10								
Grade 8								
Grade 3								
Northern Missouri								
Grade 12								
Grade 11								
Grade 10								
Grade 8								
Grade 3								
Central Missouri								
Grade 12								
Grade 11								
Grade 10								
Grade 8								
Grade 3								
St. Louis								
Grade 12								
Grade 11								
Grade 10								
Grade 8								
Grade 3								

Other Available Versions

1. Public secondary schools
2. Private secondary schools

EXHIBIT II-6
Page 2 of 2

Originating Area And Grade	Past Actual		Current	Projected				
	1958	1963	1968	1969	1970	1971	1973	1978
Springfield-Joplin								
Grade 12								
Grade 11								
Grade 10								
Grade 8								
Grade 3								
Central Ozark								
Grade 12								
Grade 11								
Grade 10								
Grade 8								
Grade 3								
Southeastern Missouri								
Grade 12								
Grade 11								
Grade 10								
Grade 8								
Grade 3								
Total Missouri								
Grade 12								
Grade 11								
Grade 10								
Grade 8								
Grade 3								

EXHIBIT II-7

MISSOURI HIGHER EDUCATION

FIRST-TIME FRESHMEN ENROLLMENT, BY LEVEL OF OFFERING

(Full-Time Students Only)

Level Of Offering	Past Actual		Current	Projected				
	1958	1963	1968	1969	1970	1971	1973	1978
Junior Colleges								
High school graduates entering college								
Other first-time freshmen								
Subtotal								
Four-Year Colleges								
High school graduates entering college								
Other first-time freshmen								
Subtotal								
Universities								
High school graduates entering college								
Other first-time freshman								
Subtotal								
Other								
High school graduates entering college								
Other first-time freshmen								
Subtotal								
Total first-time freshmen in higher education								
High school graduates entering college								
Other first-time freshmen								
Total first-time freshmen								

Other Available Versions

1. Part-time students
2. Level of offering and control

EXHIBIT II-8
Page 1 of 2

MISSOURI HIGHER EDUCATION

FIRST-TIME FRESHMEN ENROLLMENT, BY ORIGINATING AREA

(Full-Time Students Only)

Originating Area	Past Actual		Current	Projected				
	1958	1963	1968	1969	1970	1971	1973	1978
Kansas City								
High school graduates entering college								
Other first-time freshmen								
Subtotal								
Northern Missouri								
High school graduates entering college								
Other first-time freshmen								
Subtotal								
Central Missouri								
High school graduates entering college								
Other first-time freshmen								
Subtotal								
St. Louis								
High school graduates entering college								
Other first-time freshmen								
Subtotal								
Springfield-Joplin								
High school graduates entering college								
Other first-time freshmen								
Subtotal								

Other Available Versions

1. Part-time freshmen
2. Level of offering and control
3. Counties upon request

EXHIBIT II-8
Page 2 of 2

Originating Area	Past Actual		Current	Projected				
	1958	1963	1968	1969	1970	1971	1973	1978
Central Ozark								
High school graduates entering college								
Other first-time freshmen								
Subtotal								
Southeastern Missouri								
High school graduates entering college								
Other first-time freshmen								
Subtotal								
Total Missouri								
High school graduates entering college								
Other first-time freshmen								
Total first-time freshmen								

EXHIBIT II-9
Page 1 of 2

MISSOURI HIGHER EDUCATION

TOTAL ENROLLMENT, BY LEVEL OF OFFERING AND CONTROL
(Number Of Students)

Level Of Offering And Control	Past Actual		Current	Projected				
	1958	1963	1968	1969	1970	1971	1973	1978
Public								
Full time								
Junior colleges								
State colleges								
University								
Other								
Subtotal								
Part time								
Junior colleges								
State colleges								
University								
Other								
Subtotal								
Full-time equivalents								
Junior colleges								
State colleges								
University								
Other								
Subtotal								

Other Available Versions

1. Per cent of students
2. Program level

EXHIBIT II-9
Page 2 of 2

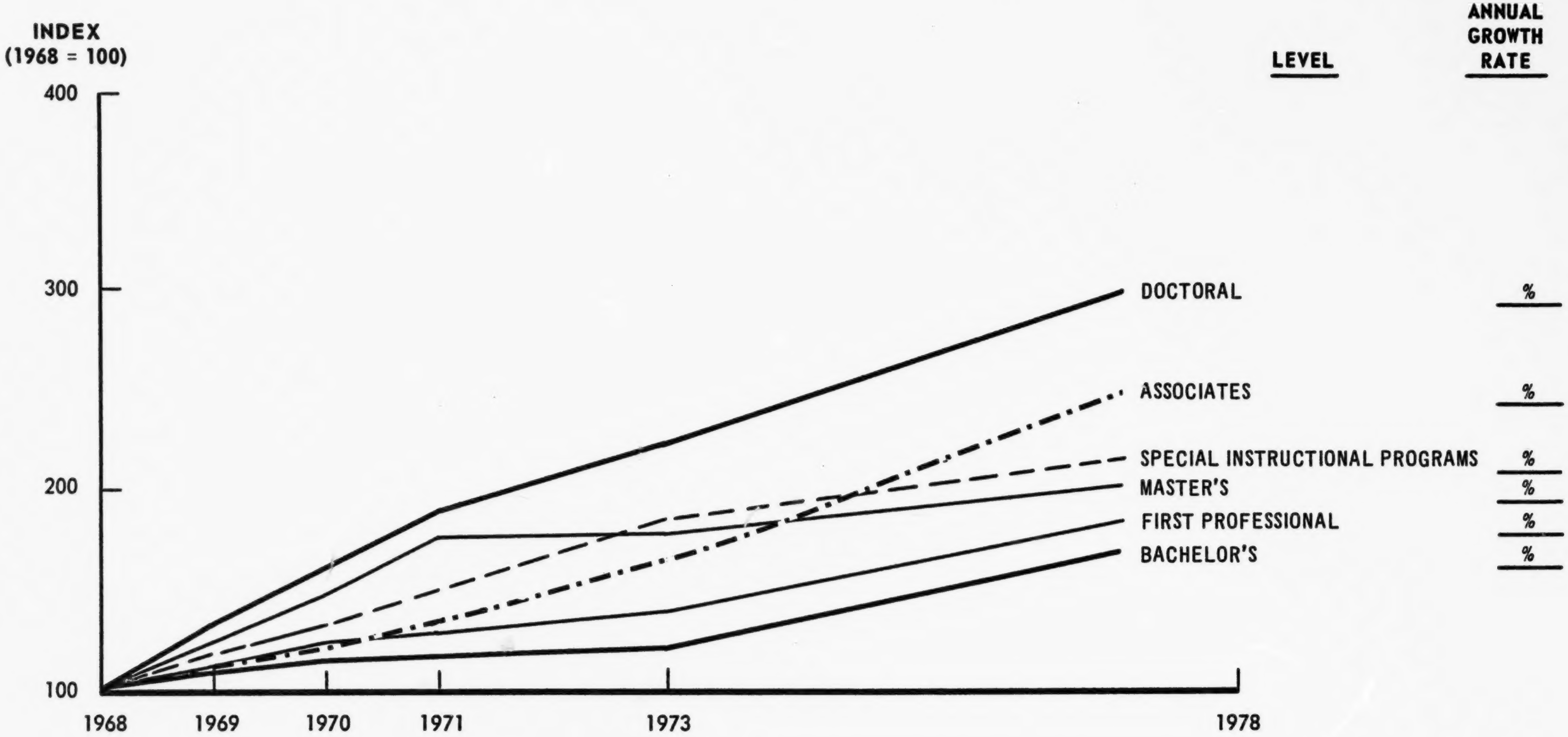
Level Of Offering And Control	Past Actual		Current	Projected				
	1958	1963	1968	1969	1970	1971	1973	1978
Private								
Full time								
Junior colleges								
Four-year colleges								
Universities								
Other								
Subtotal								
Part time								
Junior colleges								
Four-year colleges								
Universities								
Other								
Subtotal								
Full-time equivalents								
Junior colleges								
Four-year colleges								
Universities								
Other								
Subtotal								
Total Public And Private								
Full time								
Part time								
Full-time equivalents								

EXHIBIT II-10

MISSOURI HIGHER EDUCATION

PROJECTED INCREASE IN FTE STUDENTS, BY PROGRAM LEVEL

SELECTED YEARS, 1968 THROUGH 1978
(YEARS ENDING AUGUST 31)



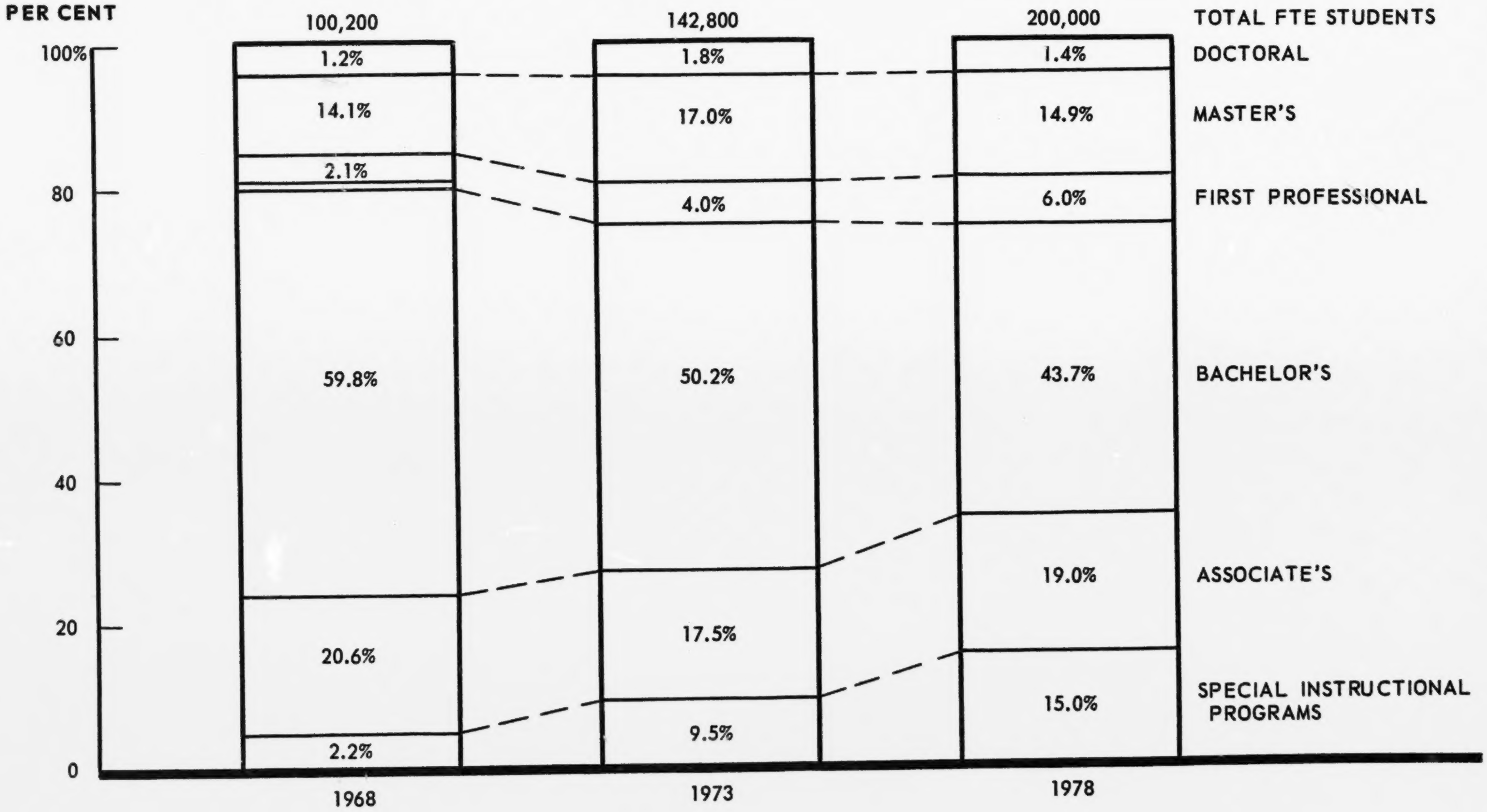
Note: Trend lines are illustrative only; they were not derived from actual data.

EXHIBIT II-11

MISSOURI HIGHER EDUCATION

PERCENTAGE OF TOTAL FTE STUDENTS, BY PROGRAM LEVEL

(YEARS ENDING AUGUST 31)



Note: *Data entries and graphs are illustrative only; they were not derived from actual data.*

EXHIBIT II-12

MISSOURI HIGHER EDUCATION

ENROLLMENT, BY SUBJECT AREA

(Number Of Students)

Subject Area	Office Of Education Code	Past Actual		Current	Projected				
		1958	1963	1968	1969	1970	1971	1973	1978
Agriculture	1000								
Architecture	1400								
Biological Sciences	1700								
Business And Commerce	2000								
City Planning	1500								
Computer Science And Systems Analysis	2100								
Education	2300								
Engineering	2600								
English And Journalism	2900								
Fine And Applied Arts	3200								
Folklore	3300								
Foreign Languages And Literature	3500								
Forestry	3800								
Geography	4100								
Health Professions	4400								
Home Economics	4700								
Law	5000								
Library Science	5300								
Mathematical subjects	5600								
Philosophy	6500								
Physical Sciences	6800								
Psychology	7100								
Records Management	7300								
Religion	7400								
Social Sciences	7700								
Broad General Curriculums And Miscellaneous Fields	8300								
Total Students									

Other Available Versions

1. Level of offering and control
2. Program level
3. Fields of study upon request

EXHIBIT II-13
Page 1 of 2

MISSOURI HIGHER EDUCATION

STUDENT ATTRITION
(Per Cent Of Enrollment)

Category	Past Actual		Current	Projected				
	1958	1963	1968	1969	1970	1971	1973	1978
Transfers								
Out-of-state public institutions								
Junior colleges								
State colleges								
Universities								
Out-of-state private instituions								
Junior colleges								
Four-year colleges								
Universities								
Subtotal								
Missouri public institutions								
Junior colleges								
State colleges								
University								
Subtotal								
Missouri private institutions								
Junior colleges								
Four-year colleges								
Universities								
Subtotal								
Total								
Per Cent								
Number								

Other Available Versions

1. Number of students
2. Level of offering and control
3. Individual institutions upon request

EXHIBIT II-13
Page 2 of 2

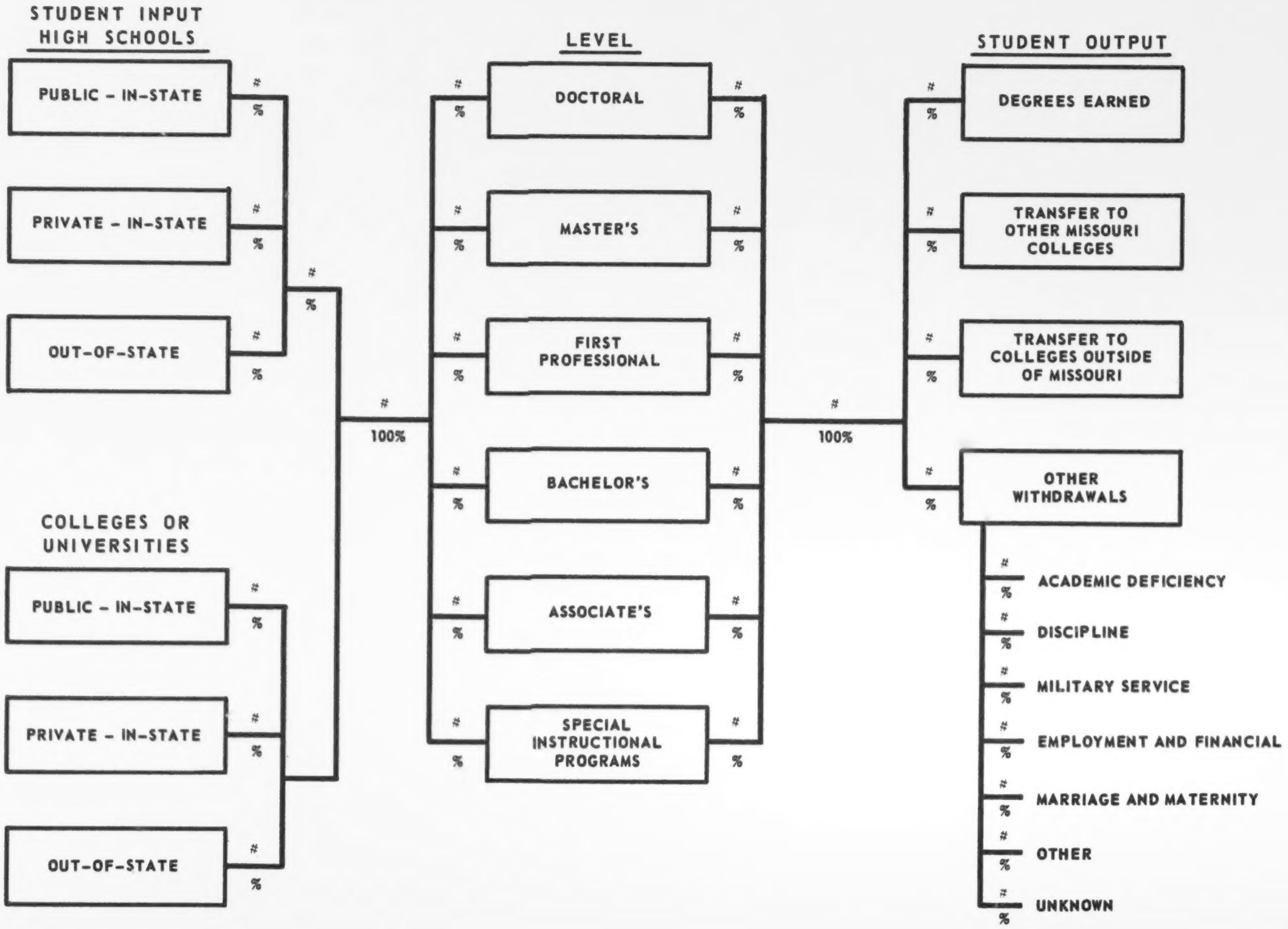
Category	Past Actual		Current	Projected				
	1958	1963	1968	1969	1970	1971	1973	1978
Withdrawals								
Academic deficiency								
Discipline								
Military service								
Employment and financial								
Marriage and maternity								
Other								
Unknown								
Total								
Per Cent								
Number								
Total Number Of Full-Time Students Enrolled								

EXHIBIT II-14

MISSOURI HIGHER EDUCATION

STUDENT INPUT-OUTPUT SUMMARY

(YEAR ENDING AUGUST 31, 1968)


STUDENT INPUT
HIGH SCHOOLS
PUBLIC - IN-STATE
PRIVATE - IN-STATE
OUT-OF-STATE
COLLEGES OR UNIVERSITIES
PUBLIC - IN-STATE
PRIVATE - IN-STATE
OUT-OF-STATE
#
%
#
100%
LEVEL
DOCTORAL
MASTER'S
FIRST PROFESSIONAL
BACHELOR'S
ASSOCIATE'S
SPECIAL INSTRUCTIONAL PROGRAMS
#
100%
STUDENT OUTPUT
DEGREES EARNED
TRANSFER TO OTHER MISSOURI COLLEGES
TRANSFER TO COLLEGES OUTSIDE OF MISSOURI
OTHER WITHDRAWALS
ACADEMIC DEFICIENCY
DISCIPLINE
MILITARY SERVICE
EMPLOYMENT AND FINANCIAL
MARRIAGE AND MATERNITY
OTHER
UNKNOWN

OTHER AVAILABLE VERSIONS

Level of offering and control

C - INFORMATION REPORTS ON CURRENT STUDENTS

Exhibit Number	
	Profile
II-15	Profile Of Student Attributes
II-16	Freshmen Achievement And Aptitude Ranking
II-17	Profile Of Students By Program Level
II-18	Profile Of Students By Subject Area
	Source
II-19	Source Of Students By Level And Control
	Student Financial Aid
II-20	Student Financial Aid By Type

EXHIBIT II-15

MISSOURI HIGHER EDUCATION

PROFILE OF STUDENT ATTRIBUTES

(Per Cent Of Students)

Category	Public				Private				Total Per Cent	Total Number
	Junior Colleges	State Colleges	University	Subtotal	Junior Colleges	Four-Year Colleges	Universities	Subtotal		
Ethnic Group										
American Indian										
Negro										
Oriental										
Spanish American										
Other										
Total										
Sex										
Male										
Female										
Term Basis										
Semester										
Trimester										
Quarter										
Total										
Session										
Day										
Evening										
Enrollment Status										
Full Time										
Part Time										
Total										
Per Cent										
Number										

Other Available Versions

1. Number of students
2. Program level
3. Individual public institutions by level of offering
4. Correlation analysis upon request

EXHIBIT II-16

MISSOURI HIGHER EDUCATION

FRESHMEN ACHIEVEMENT AND APTITUDE RANKING

(Per Cent Of Students)

Level Of Offering And Control	Decile										Total Per Cent	Total
	Top	2	3	4	5	6	7	8	9	Bottom		
Public												
Junior colleges												
High school class rank												
Aptitude test												
State colleges												
High school class rank												
Aptitude test												
University												
High school class rank												
Aptitude test												
Other												
High school class rank												
Aptitude test												
Subtotal												
Private												
Junior colleges												
High school class rank												
Aptitude test												
Four-year colleges												
High school class rank												
Aptitude test												
Universities												
High school class rank												
Aptitude test												
Other												
High school class rank												
Aptitude test												
Subtotal												
Total Students												
High School Class Rank												
Aptitude Test												

Other Available Version

Individual public institutions
by level of offering

EXHIBIT II-17

MISSOURI HIGHER EDUCATION

PROFILE OF STUDENTS BY PROGRAM LEVEL

(Number Of Students)

Subject Area	Office Of Education Code	Associate - Terminal	Associate - Transfer	Bachelor's	First Professional	Master's	Doctoral	Total
Agriculture	1000							
Architecture	1400							
Biological Sciences	1700							
Business And Commerce	2000							
City Planning	1500							
Computer Science And Systems Analysis	2100							
Education	2300							
Engineering	2600							
English And Journalism	2900							
Fine And Applied Arts	3200							
Folklore	3300							
Foreign Languages And Literature	3500							
Forestry	3800							
Geography	4100							
Health Professions	4400							
Home Economics	4700							
Law	5000							
Library Science	5300							
Mathematical subjects	5600							
Philosophy	6500							
Physical Sciences	6800							
Psychology	7100							
Records Management	7300							
Religion	7400							
Social Sciences	7700							
Broad General Curriculums And Miscellaneous Fields	8300							
Total Students								

Other Available Versions

1. Level of offering and control
2. Individual institutions by level of offering

EXHIBIT II-18

MISSOURI HIGHER EDUCATION

PROFILE OF STUDENTS BY SUBJECT AREA

(Number Of Students)

Subject Area	Office Of Education Code	Public				Private				Total
		Junior Colleges	State Colleges	Uni-versity	Sub-total	Junior Colleges	Four-Year Colleges	Univer-sities	Sub-total	
Agriculture	1000									
Architecture	1400									
Biological Sciences	1700									
Business And Commerce	2000									
City Planning	1500									
Computer Science And Systems Analysis	2100									
Education	2300									
Engineering	2600									
English And Journalism	2900									
Fine And Applied Arts	3200									
Folklore	3300									
Foreign Languages And Literature	3500									
Forestry	3800									
Geography	4100									
Health Professions	4400									
Home Economics	4700									
Law	5000									
Library Science	5300									
Mathematical subjects	5600									
Philosophy	6500									
Physical Sciences	6800									
Psychology	7100									
Records Management	7300									
Religion	7400									
Social Sciences	7700									
Broad General Curriculums And Miscellaneous Fields	8300									
Total Students										

Other Available Versions

Individual institutions by level of offering

EXHIBIT II-19

MISSOURI HIGHER EDUCATION

SOURCE OF STUDENTS BY LEVEL AND CONTROL

(Per Cent Of Students)

Originating Area	Public				Private				Total Per Cent	Total Number
	Junior Colleges	State Colleges	University	Subtotal	Junior Colleges	Four-Year Colleges	Universities	Subtotal		
Kansas City										
Northern Missouri										
Central Missouri										
St. Louis										
Springfield-Joplin										
Central Ozark										
Southeastern Missouri										
Subtotal Missouri										
Arkansas										
Illinois										
Iowa										
Kansas										
Kentucky										
Nebraska										
Oklahoma										
Tennessee										
Other states										
Foreign countries										
Total										
Per Cent										
Number										

Other Available Versions

1. Individual public institution by level of offering
2. Program level
3. Freshmen
4. County upon request

EXHIBIT II-20

MISSOURI HIGHER EDUCATION

STUDENT FINANCIAL AID BY TYPE
(Hundreds Of Dollars)

Type Of Aid	Public				Private				Total
	Junior Colleges	State Colleges	University	Subtotal	Junior Colleges	Four-Year Colleges	Universities	Subtotal	
All Students Receiving Aid									
Work-study									
Grants									
Loans									
Guaranteed									
Direct									
Government									
Other									
Subtotal									
Other									
Total									
Total Number Of Students Receiving Aid									
Per Student Receiving Aid									
Work-study									
Grants									
Loans									
Guaranteed									
Direct									
Government									
Other									
Subtotal									
Other									
Total									

Other Available Versions

1. Individual public institutions by level of offering
2. Per cent of students receiving aid
3. Per cent of total enrollment

D - INFORMATION REPORTS ON DEGREES AWARDED

Exhibit Number

Subject And Level Breakdown
II-21 Degrees Awarded, By Type Of Degree
II-22 Degrees Awarded, By Type Of Degree And Subject Area

Institutions
II-23 Degrees Awarded, By State Colleges

EXHIBIT II-21

MISSOURI HIGHER EDUCATION

DEGREES AWARDED BY TYPE OF DEGREE

(Number Of Students)

Subject Area	Office Of Education Code	Associate - Terminal	Associate - Transfer	Bachelor's	First Professional	Master's	Doctoral	Total Per Cent	Total Number
Agriculture	1000								
Architecture	1400								
Biological Sciences	1700								
Business And Commerce	2000								
City Planning	1500								
Computer Science And Systems Analysis	2100								
Education	2300								
Engineering	2600								
English And Journalism	2900								
Fine and Applied Arts	3200								
Folklore	3300								
Foreign Languages And Literature	3500								
Forestry	3800								
Geography	4100								
Health Professions	4400								
Home Economics	4700								
Law	5000								
Library Science	5300								
Mathematical subjects	5600								
Philosophy	6500								
Physical Sciences	6800								
Psychology	7100								
Records Management	7300								
Religion	7400								
Social Sciences	7700								
Broad General Curriculums And Miscellaneous Fields	8300								
Total Number Of Degrees									

Other Available Versions

1. Level of offering and control
2. Individual institutions by level of offering

EXHIBIT II-22
Page 1 of 4

MISSOURI HIGHER EDUCATION

DEGREES AWARDED, BY TYPE OF DEGREE AND SUBJECT AREA

(Number Of Degrees)

Type Of Degree And Subject Area	Public				Private				Total All Institutions
	Junior Colleges	State Colleges	University	Sub-total	Junior Colleges	Four-Year Colleges	Universities	Sub-total	
Associate - Terminal									
Engineering related									
Science related									
Health Services									
Other science or engineering related									
Nonscience and nonengineering related									
Subtotal									
Associate - Transfer									
Arts									
Science									
Other									
Subtotal									
Bachelor's									
Agriculture									
Architecture									
Biological Sciences									
Business and Commerce									
City Planning									
Computer Science and Systems Analysis									
Education									
Engineering									
English and Journalism									
Fine and Applied Arts									
Folklore									
Foreign Languages and Literature									
Forestry									
Geography									
Health Professions									

Other Available Versions

1. Individual public institution by level of offering
2. Per cent by subject area to total and type of degree
3. Fields of study upon request

EXHIBIT II-22
Page 2 of 4

Type Of Degree And Subject Area	Public				Private				Total All Institutions
	Junior Colleges	State Colleges	University	Sub-total	Junior Colleges	Four-Year Colleges	Universities	Sub-total	
Bachelor's (Cont'd)									
Home Economics									
Law									
Library Science									
Mathematical subjects									
Philosophy									
Physical Sciences									
Psychology									
Records Management									
Religion									
Social Sciences									
Broad general curriculums and miscellaneous fields									
Subtotal									
First Professional									
Dentistry									
Medicine									
Veterinary Medicine									
Law									
Theology									
Chiropody or Podiatry									
Optometry									
Osteopathy									
Other									
Subtotal									

EXHIBIT II-22
Page 3 of 4

Type Of Degree And Subject Area	Public				Private				Total All Institutions
	Junior Colleges	State Colleges	University	Sub-total	Junior Colleges	Four-Year Colleges	Universities	Sub-total	
Master's									
Agriculture									
Architecture									
Biological Sciences									
Business and Commerce									
City Planning									
Computer Science and Systems Analysis									
Education									
Engineering									
English and Journalism									
Fine and Applied Arts									
Folklore									
Foreign Languages and Literature									
Forestry									
Geography									
Health Professions									
Home Economics									
Law									
Library Science									
Mathematical subjects									
Philosophy									
Physical Sciences									
Psychology									
Records Management									
Religion									
Social Sciences									
Broad general curriculums and miscellaneous fields									
Subtotal									

EXHIBIT II-22
Page 4 of 4

Type Of Degree And Subject Area	Public				Private				Total All Institutions
	Junior Colleges	State Colleges	University	Sub-total	Junior Colleges	Four-Year Colleges	Universities	Sub-total	
Doctoral									
Agriculture									
Architecture									
Biological Sciences									
Business and Commerce									
City Planning									
Computer Science and Systems Analysis									
Education									
Engineering									
English and Journalism									
Fine and Applied Arts									
Folklore									
Foreign Languages and Literature									
Forestry									
Geography									
Health Professions									
Home Economics									
Law									
Library Science									
Mathematical subjects									
Philosophy									
Physical Sciences									
Psychology									
Records Management									
Religion									
Social Sciences									
Broad general curriculums and miscellaneous fields									
Subtotal									
Total All Degrees									

EXHIBIT II-23
Page 1 of 4

MISSOURI HIGHER EDUCATION

DEGREES AWARDED BY STATE COLLEGES

(Number Of Degrees)

Type Of Degree By Subject Area	Central Missouri	Northeast Missouri	Northwest Missouri	Southeast Missouri	Southwest Missouri	Lincoln University	Total
Associate - Terminal							
Engineering related							
Science related							
Health Services							
Other science or engineering related							
Nonscience and nonengineering related							
Subtotal							
Associate - Transfer							
Arts							
Science							
Other							
Subtotal							
Bachelor's							
Agriculture							
Architecture							
Biological Sciences							
Business and Commerce							
City Planning							
Computer Science and Systems Analysis							
Education							
Engineering							
English and Journalism							
Fine and Applied Arts							
Folklore							
Foreign Languages and Literature							
Forestry							
Geography							
Health Professions							

Other Available Versions

1. Public university campuses
2. Public junior colleges
3. Private institutions by level of offering

EXHIBIT II-23
Page 2 of 4

Type Of Degree By Subject Area	Central Missouri	Northeast Missouri	Northwest Missouri	Southeast Missouri	Southwest Missouri	Lincoln University	Total
Bachelor's (Cont'd)							
Home Economics							
Law							
Library Science							
Mathematical subjects							
Philosophy							
Physical sciences							
Psychology							
Records Management							
Religion							
Social Sciences							
Broad general curriculums and miscellaneous fields							
Subtotal							
First Professional							
Dentistry							
Medicine							
Veterinary Medicine							
Law							
Theology							
Chiropody or Podiatry							
Optometry							
Osteopathy							
Other							
Subtotal							

EXHIBIT II-23
Page 3 of 4

Type Of Degree By Subject Area	Central Missouri	Northeast Missouri	Northwest Missouri	Southeast Missouri	Southwest Missouri	Lincoln University	Total
Master's							
Agriculture							
Architecture							
Biological Sciences							
Business and Commerce							
City Planning							
Computer Science and Systems Analysis							
Education							
Engineering							
English and Journalism							
Fine and Applied Arts							
Folklore							
Foreign Languages and Literature							
Forestry							
Geography							
Health Professions							
Home Economics							
Law							
Library Science							
Mathematical subjects							
Philosophy							
Physical Sciences							
Psychology							
Records Management							
Religion							
Social Sciences							
Broad general curriculums and miscellaneous fields							
Subtotal							

EXHIBIT II-23
Page 4 of 4

Type Of Degree By Subject Area	Central Missouri	Northeast Missouri	Northwest Missouri	Southeast Missouri	Southwest Missouri	Lincoln University	Total
Doctoral							
Agriculture							
Architecture							
Biological Sciences							
Business and Commerce							
City Planning							
Computer Science and Systems Analysis							
Education							
Engineering							
English and Journalism							
Fine and Applied Arts							
Folklore							
Foreign Languages and Literature							
Forestry							
Geography							
Health Professions							
Home Economics							
Law							
Library Science							
Mathematical subjects							
Philosophy							
Physical Sciences							
Psychology							
Records Management							
Religion							
Social Sciences							
Broad general curriculums and miscellaneous fields							
Subtotal							
Total All Degrees							

E - RECORD LAYOUTS

Exhibit Number	
II-24	Enrollment Record
II-25	Student Attrition Record

EXHIBIT II-24
Page 1 of 4

MISSOURI HIGHER EDUCATION

ENROLLMENT RECORD

Punched Card Column	Item	Data	Code Number
1-2	Record type	Enrollment record	01
3	Level of offering	Junior college	1
		Four-year college	2
		University	3
		Special school (seminary)	4
4	Control	Public	2
		Private	
		Religious affiliation	6
		Other	8
5-6	Institution code		
7-9	Record date	Month and year	
10-18	Record identification number	Unique number	
19	Credit status	Enrolled	1
		Auditor	2
		Other	3
20	Sex	Male	M
		Female	F
21-22	Year of birth	Last two digits of year of birth	
23	Ethnic group	American Indian	2
		Negro	4
		Oriental	6
		Spanish American	7
		Other	8
24	Type of high school	Out-of-State public	4
		Out-of-State private	
		Religious affiliation	5
		Other	6
		In-State public	7
		In-State private	
		Religious affiliated	8
		Other	9
25-27	County of high school graduation		

EXHIBIT II-24
Page 2 of 4

Punched Card Column	Item	Date	Code Number
28-30	State and country	100 series codes will represent states; 200 through 800 series codes will be used for foreign countries	
31-33	Entering date	Month and year entered this institution	
34-35	Program level and class	Undergraduate	
		Freshman or first year of junior college - first semester	02
		Freshman or first year of junior college - second semester	03
		Sophmore or second year of junior college - first semester	04
		Sophmore or second year of junior college - second semester	05
		Junior - first semester	06
		Junior - second semester	07
		Senior - first semester	08
		Senior - second semester	09
		First professional	21
		Master's	31
		Doctoral	
		First year	41
		Advanced	42
		Thesis	43
		Other postgraduate	51
		Adult education	61
		Correspondence	71
		Other	81

EXHIBIT II-24
Page 3 of 4

Punched Card Number	Item	Data	Code Number
36-37	State professional classification	Primary professional	
		First year	11
		Second year	12
		Third year	13
		Fourth year	14
		Advanced professional	
		First year	21
		Second year	22
		Third year	23
		Fourth year	24
38	Enrollment status	Full time	1
		Part time	5
39	Resident/extension	Resident	
		Live in institutionally owned or operated housing	2
		Live in other housing away from home	4
		Live at home and commute	6
		Extension	8
40	Marital status	Single	S
		Married	M
41-43	High school rank	Decide ranking	
44-46	Student aptitude test score		
47	Type of student aptitude test	Scholastic Aptitude Test	1
		American College Testing Program	2
48-51	Student's major field of study/curriculum	Office of Education item number	
52	First time field of study/curriculum offered	Office of Education item number	
53	College or university transferred from	In-State public	1
		In-State private	
		Religious affiliation	2
		Other	3
		Out-of-State public	6
		Out-of-State private	
		Religious affiliation	7
		Other	8

EXHIBIT II-24

Punched Card Column	Item	Data	Code Number
54	College or university transferred from by level of offering	Junior college	5
		Four-year college	6
		University	7
		Special school (seminary)	8
55-59	College or university transferred from code	Federal educational institution code	
60	Term basis	Semester	2
		Quarter	4
		Trimester	6
		Other	8
61-62	Credit-hours		
63-64	Contact-hours		
65-67	Student work assignments	Actual earnings during the previous term - dollars to the nearest 100	
68	Type of loan	National Defense Education Loan	1
		Federal Low-Interest Student Loan	2
		Health Professions Student Loan	3
		United Student Assistance Fund	4
		Other	5
69-70	Amount of loan	Dollars to the nearest 100	
71	Type of grant	Codes will be established as required	
72-73	Amount of grant	Dollars to the nearest 100	

EXHIBIT II-25
Page 1 of 4

MISSOURI HIGHER EDUCATION

STUDENT ATTRITION RECORD

Punched Card Column	Item	Data	Code Number
1-2	Record type	Attrition record	02
3	Level of offering	Junior college	1
		Four-year college	2
		University	3
		Special school (seminary)	4
4	Control	Public	2
		Private	
		Religious affiliation	6
		Other	8
5-6	Institution code		
7-9	Record date	Month and year	
10-18	Record identification number	Unique number	
19	Credit status	Enrolled	1
		Auditor	2
		Other	3
20	Sex	Male	M
		Female	F
21-22	Year of birth	Last two digits of year of birth	
23	Ethnic group	American Indian	2
		Negro	4
		Oriental	6
		Spanish American	7
		Other	8
24	Type of high school	Out-of-State public	4
		Out-of-State private	
		Religious affiliation	5
		Other	6
		In-State public	7
		In-State private	
		Religious affiliation	8
		Other	9
25-27	County of high school graduation		

EXHIBIT II-25
Page 2 of 4

Punched Card Column	Item	Data	Code Number
28-30	State and country	100 series codes will represent states; 200 through 800 series codes will be used for foreign countries	
31-33	Entering date	Month and year entered this institution	
34-35	Program level and class	Undergraduate	
		Freshman or first year of junior college - first semester	02
		Freshman or first year of junior college - second semester	03
		Sophomore or second year of junior college - first semester	04
		Sophomore or second year of junior college - second semester	05
		Junior - first semester	06
		Junior - second semester	07
		Senior - first semester	08
		Senior - second semester	09
		First professional	21
		Master's	31
		Doctoral	
		First year	41
		Advanced	42
		Thesis	43
		Other postgraduate	51
		Adult education	61
		Correspondence	71
		Other	81

Punched Card Column	Item	Data	Code Number
36-37	State professional classification	Primary professional	
		First year	11
		Second year	12
		Third year	13
		Fourth year	14
		Advanced professional	
		First year	21
		Second year	22
		Third year	23
		Fourth year	24
38	Enrollment status	Full time	1
		Part time	5
39	Resident/extension	Resident	
		Live in institutionally owned or operated housing	2
		Live in other housing away from home	4
		Live at home and commute	6
		Extension	8
40	Marital status	Single	S
		Married	M
41-43	High school average		
44-46	Student aptitude test score		
47	Type of student aptitude test	Scholastic Aptitude Test	1
		American College Testing Program	2
48-51	Field of study/curriculum	Office of Education item number	6
52	First time course offered		
53	College or university transferred from	In-State public	1
		In-State private	
		Religious affiliation	2
		Other	3
		Out-of-State public	6
		Out-of-State private	
		Religious affiliation	7
		Other	8

Punched Card Column	Item	Data	Code Number
54	College or university transferred from, by level of offering	Junior college	7
		Four-year college	8
		University	9
55	Term basis	Semester	2
		Quarter	4
		Trimester	6
56-57	Attrition code	Transfer	02
		Academic deficiencies	03
		Discipline	04
		Military service	05
		Employment and financial	06
		Marriage or maternity	08
		Other	09
		Unknown	10
58-60	Termination date	Month and year	
61	College or university transferred to, by control	In-State public	1
		In-State private	
		Religious affiliation	2
		Other	3
		Out-of-State public	6
		Out-of-State private	
		Religious affiliation	7
		Other	8
62	College or university transferred to, by level of offering	Junior college	7
		Four-year college	8
		University	9
63-64	Missouri college code		
65-69	Other college code	Federal educational institution code	

III - PROGRAM INFORMATION SUBSYSTEM

A - FLOW CHARTS

Exhibit Number	
III-1	Creating Initial Files Or Processing Fall And Spring Program Data
III-2	Updating Program History File
III-3	Processing Planning Reports
III-4	Processing Information Reports

EXHIBIT III-1

MISSOURI HIGHER EDUCATION

CREATING INITIAL FILES OR PROCESSING FALL AND SPRING PROGRAM DATA

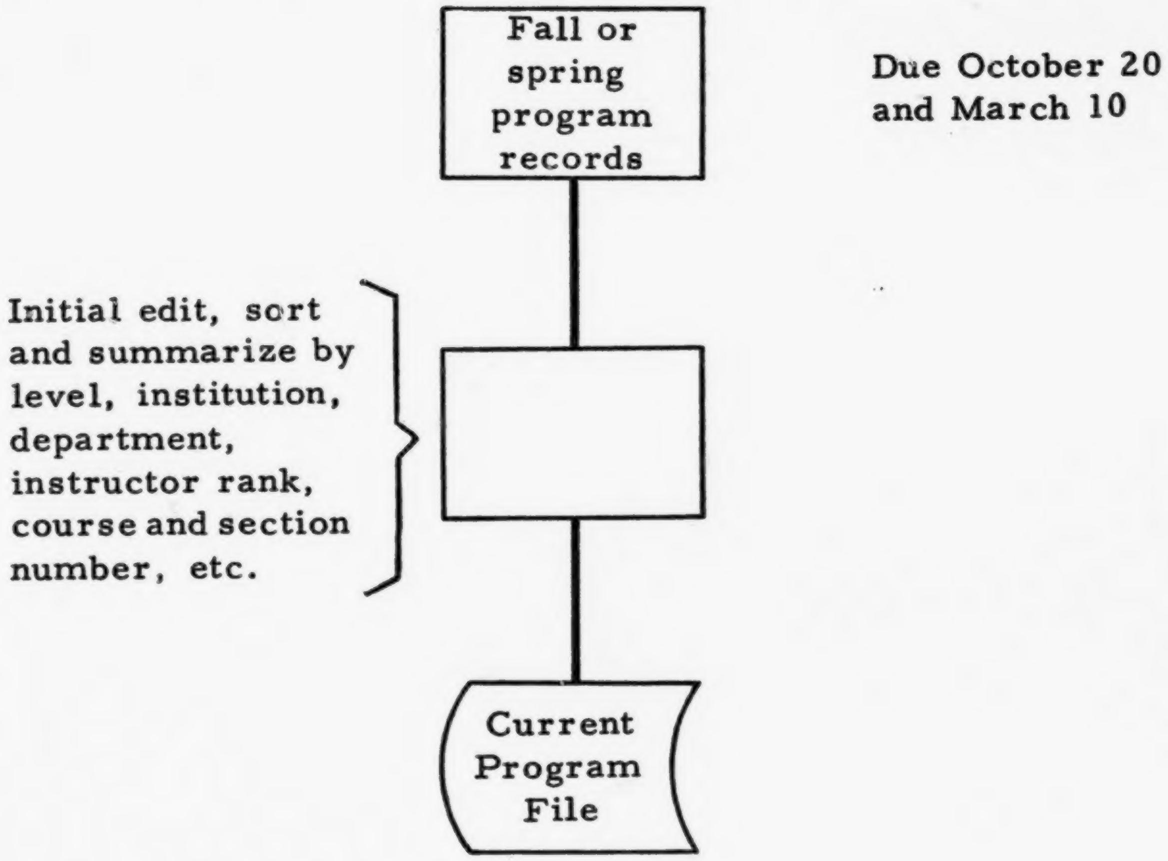

Fall or spring program records
Due October 20 and March 10
Initial edit, sort and summarize by level, institution, department, instructor rank, course and section number, etc.
Current Program File

EXHIBIT III-2

MISSOURI HIGHER EDUCATION

UPDATING PROGRAM HISTORY FILE

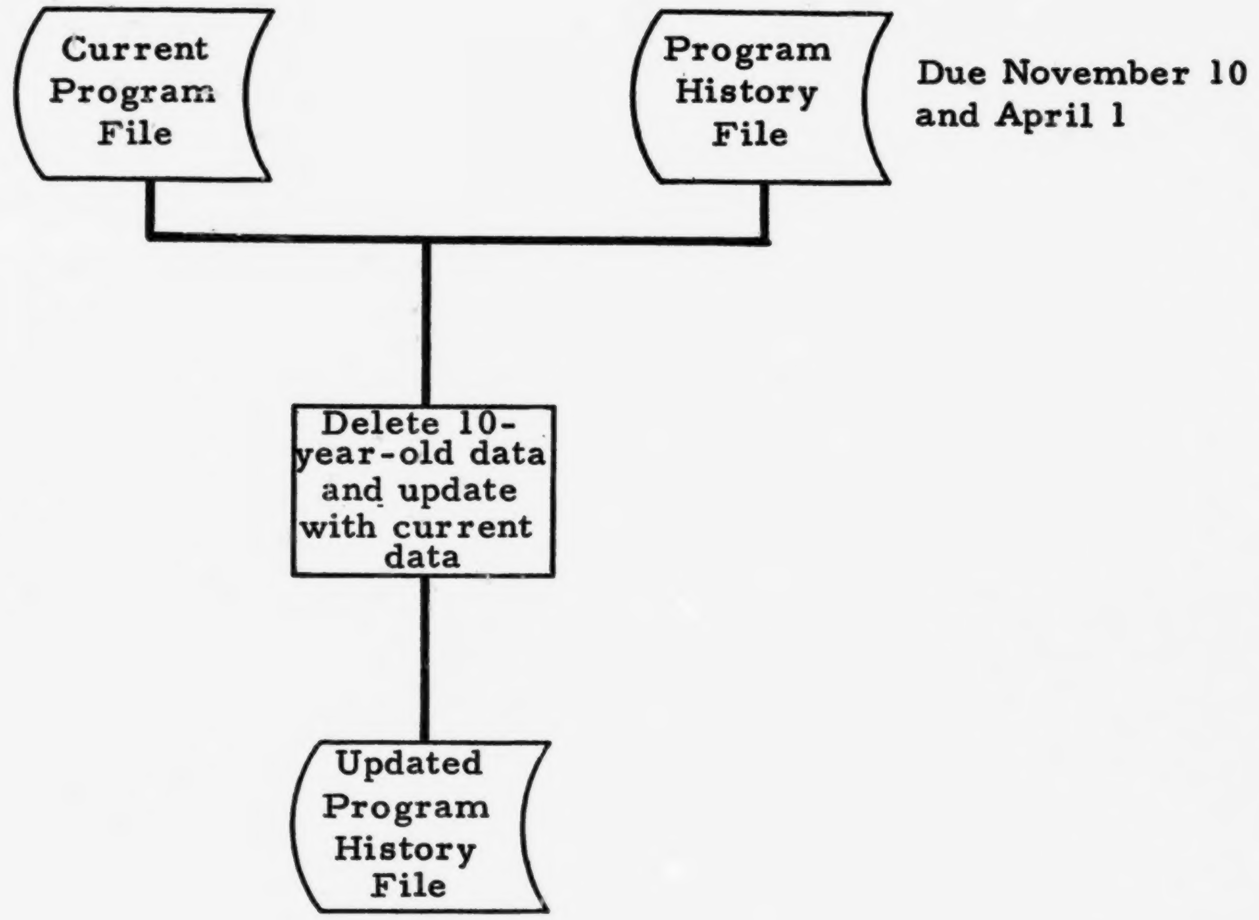

Current Program File
Program History File
Due November 10 and April 1
Delete 10-year-old data and update with current data
Updated Program History File

EXHIBIT III-3

MISSOURI HIGHER EDUCATION

PROCESSING PLANNING REPORTS

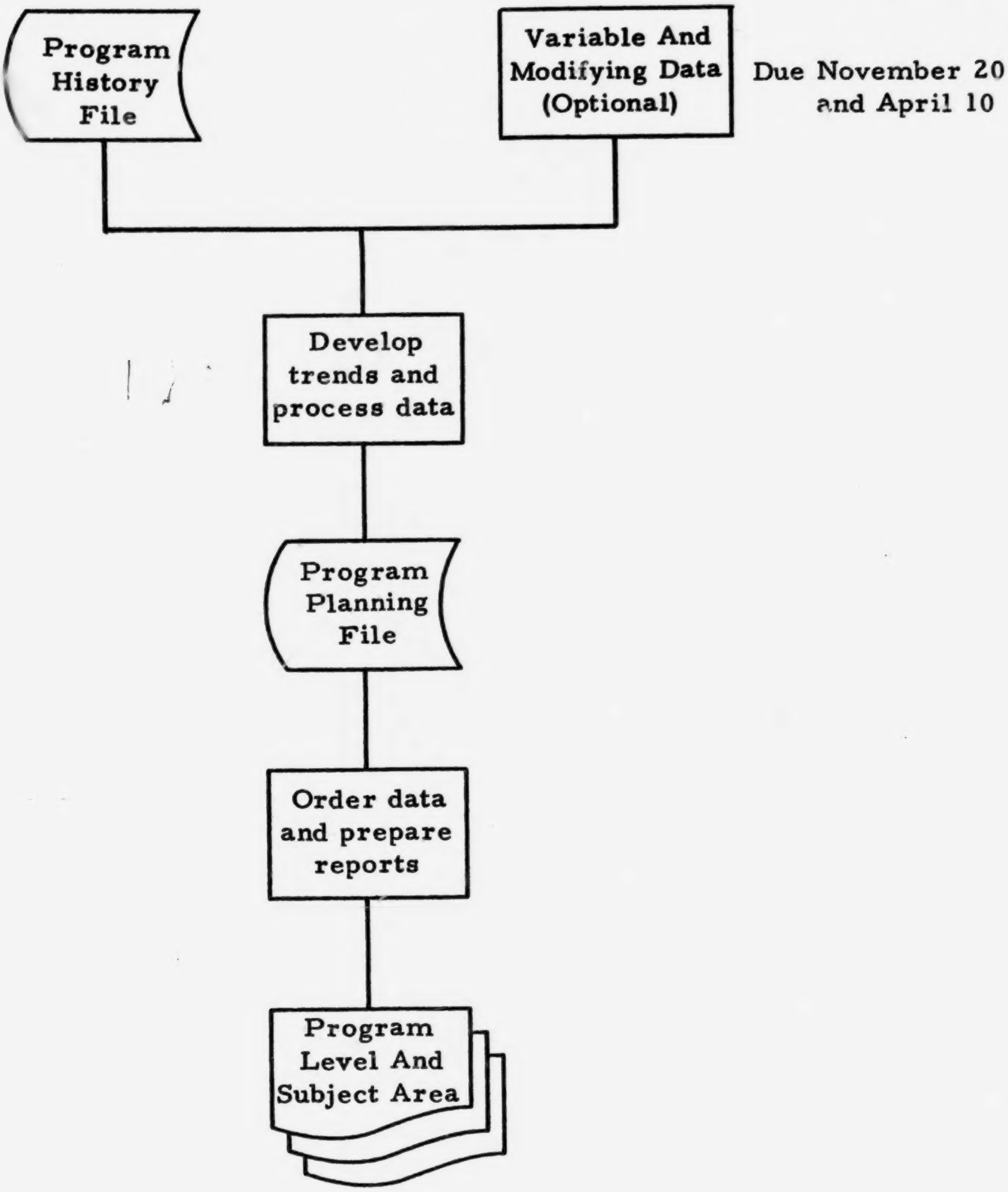
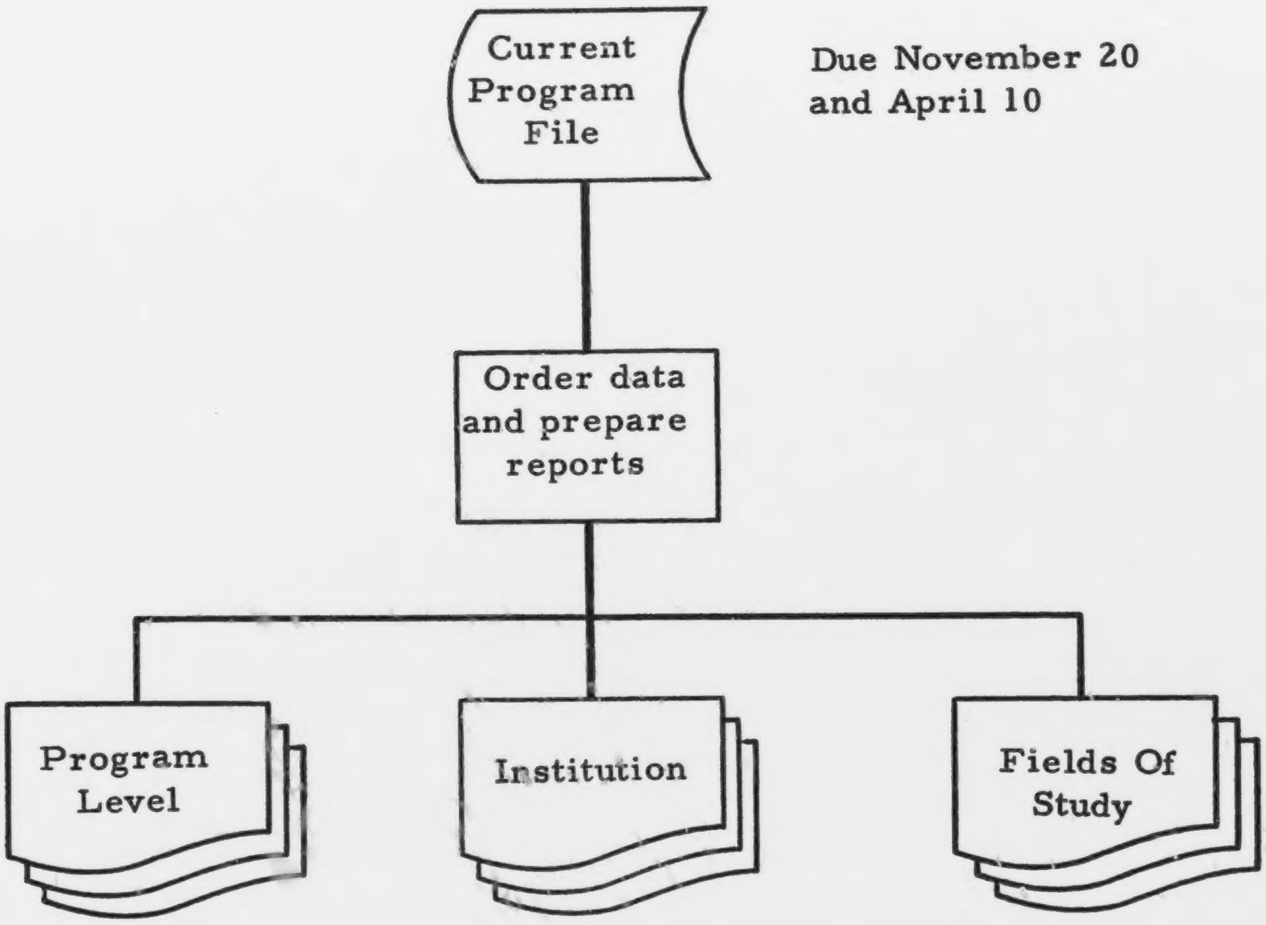

Program History File
Variable And Modifying Data (Optional)
Due November 20 and April 10
Develop trends and process data
Program Planning File
Order data and prepare reports
Program Level And Subject Area

EXHIBIT III-4

MISSOURI HIGHER EDUCATION

PROCESSING INFORMATION REPORTS


Current Program File
Order data and prepare reports
Program Level
Institution
Fields Of Study

Due November 20
and April 10

B - PLANNING REPORTS FOR FUTURE MISSOURI HIGHER EDUCATION

Exhibit Number	
III-5	Program Level And Subject Area Courses Offered At The Public University

EXHIBIT III-5
Page 1 of 4

MISSOURI HIGHER EDUCATION

COURSES OFFERED AT THE PUBLIC UNIVERSITY
(Total Credit-Hours)

Program Level And Subject Area	Past Actual		Current	Projected				
	1958	1963	1968	1969	1970	1971	1973	1978
Associate - Terminal								
Engineering related								
Science related								
Health Services								
Other science or engineering related								
Nonscience and nonengineering related								
Subtotal								
Science								
Other								
Subtotal								
Bachelor's								
Agriculture								
Architecture								
Biological Sciences								
Business and Commerce								
City Planning								
Computer Science and Systems Analysis								
Education								
Engineering								
English and Journalism								
Fine and Applied Arts								
Folklore								
Foreign Languages and Literature								
Forestry								
Geography								
Health Professions								

Other Available Versions

1. State colleges
2. Public junior colleges
3. Private institutions by level

Program Level And Subject Area	Past Actual		Current	Projected				
	1958	1963	1968	1969	1970	1971	1973	1978
Bachelor's (Cont'd)								
Home Economics								
Law								
Library Science								
Mathematical subjects								
Philosophy								
Physical Sciences								
Psychology								
Records Management								
Religion								
Social Sciences								
Broad general curriculums and miscellaneous fields								
Subtotal								
First Professional								
Dentistry								
Medicine								
Veterinary Medicine								
Law								
Theology								
Chiropody or Podiatry								
Optometry								
Osteopathy								
Other								
Subtotal								

EXHIBIT III-5
Page 3 of 4

Program Level And Subject Area	Past Actual		Current	Projected				
	1958	1963	1968	1969	1970	1971	1973	1978
Master's								
Agriculture								
Architecture								
Biological Sciences								
Business and Commerce								
City Planning								
Computer Science and Systems Analysis								
Education								
Engineering								
English and Journalism								
Fine and Applied Arts								
Folklore								
Foreign Languages and Literature								
Forestry								
Geography								
Health Professions								
Home Economics								
Law								
Library Science								
Mathematical subjects								
Philosophy								
Physical Sciences								
Psychology								
Records Management								
Religion								
Social Sciences								
Broad general curriculums and miscellaneous fields								
Subtotal								

EXHIBIT III-5
Page 4 of 4

Program Level And Subject Area	Past Actual		Current	Projected				
	1958	1963	1968	1969	1970	1971	1973	1978
Doctoral								
Agriculture								
Architecture								
Biological Sciences								
Business and Commerce								
City Planning								
Computer Science and Systems Analysis								
Education								
Engineering								
English and Journalism								
Fine and Applied Arts								
Folklore								
Foreign Languages and Literature								
Forestry								
Geography								
Health Professions								
Home Economics								
Law								
Library Science								
Mathematical subjects								
Philosophy								
Physical Sciences								
Psychology								
Records Management								
Religion								
Social Sciences								
Broad general curriculums and miscellaneous fields								
Subtotal								
Total All Levels								

C - INFORMATION REPORTS ON CURRENT SUBJECT AREAS

Exhibit Number	
	Program Level
III-6	Courses Offered By Program Level At The Public University
	Institution
III-7	Courses Offered By Program Level And Subject Area
	Fields Of Study
III-8	Courses Offered By Fields Of Study At The Public University
III-9	Proposed Fields Of Study At The Public University

EXHIBIT III-6

MISSOURI HIGHER EDUCATION

COURSES OFFERED BY PROGRAM LEVEL AT THE PUBLIC UNIVERSITY

(Total Credit-Hours)

Subject Area	Number	Associate - Terminal	Associate - Transfer	Bacehlor's	First Pro-fessional	Master's	Doctoral	Total
Agriculture	1000							
Architecture	1400							
Biological Sciences	1700							
Business And Commerce	2000							
City Planning	1500							
Computer Science And Systems Analysis	2100							
Education	2300							
Engineering	2600							
English And Journalism	2900							
Fine And Applied Arts	3200							
Folklore	3300							
Foreign Languages And Literature	3500							
Forestry	3800							
Geography	4100							
Health Professions	4400							
Home Economics	4700							
Law	5000							
Library Science	5300							
Mathematical subjects	5600							
Philosophy	6500							
Physical Sciences	6800							
Psychology	7100							
Records Management	7300							
Religion	7400							
Social Sciences	7700							
Broad General Curriculums And Miscellaneous Fields	8300							
Total All Subject Areas								

Other Available Versions

1. State colleges
2. Public junior colleges
3. Private institutions by level of offering
4. Fields of study upon request

EXHIBIT III-7
Page 1 of 4

MISSOURI HIGHER EDUCATION

COURSES OFFERED BY PROGRAM LEVEL AND SUBJECT AREA

(Total Credit-Hours)

Program Level And Subject Area	University Of Missouri					St. Louis University	Washington University	Total
	Columbia	Rolla	Kansas City	St. Louis	Sub-total			
Associate - Terminal								
Engineering related								
Science related								
Health Services								
Other science or engineering related								
Nonscience and nonengineering related								
Subtotal								
Associate - Transfer								
Arts								
Science								
Other								
Subtotal								
Bachelor's								
Agriculture								
Architecture								
Biological Sciences								
Business and Commerce								
City Planning								
Computer Science and Systems Analysis								
Education								
Engineering								
English and Journalism								
Fine and Applied Arts								
Folklore								
Foreign Languages and Literature								
Forestry								
Geography								
Health Professions								

Other Available Versions

1. State colleges
2. Public junior colleges
3. Private institutions upon request
4. Fields of study upon request

EXHIBIT III-7
Page 2 of 4

Program Level And Subject Area	University Of Missouri					St. Louis University	Washington University	Total
	Columbia	Rolla	Kansas City	St. Louis	Sub-total			
Bachelor's (Cont'd)								
Home Economics								
Law								
Library Science								
Mathematical Subjects								
Philosophy								
Physical Sciences								
Psychology								
Records Management								
Religion								
Social Sciences								
Broad general curriculums and miscellaneous fields								
Subtotal								
First Professional								
Dentistry								
Medicine								
Veterinary Medicine								
Law								
Theology								
Chiropody or Podiatry								
Optometry								
Osteopathy								
Other								
Subtotal								
Master's								
Agriculture								
Architecture								
Biological Sciences								
Business and Commerce								
City Planning								
Computer Science and Systems Analysis								

EXHIBIT III-7
Page 3 of 4

Program Level And Subject Area	University Of Missouri					St. Louis University	Washington University	Total
	Columbia	Rolla	Kansas City	St. Louis	Sub-total			
Master's (Cont'd)								
Education								
Engineering								
English and Journalism								
Fine and Applied Arts								
Folklore								
Foreign Languages and Literature								
Forestry								
Geography								
Health Professions								
Home Economics								
Law								
Library Science								
Mathematical Subjects								
Philosophy								
Physical Sciences								
Psychology								
Records Management								
Religion								
Social Sciences								
Broad general curriculums and miscellaneous fields								
Subtotal								
Doctoral								
Agriculture								
Architecture								
Biological Sciences								
Business and Commerce								
City Planning								
Computer Science and Systems Analysis								
Education								
Engineering								

EXHIBIT III-7
Page 4 of 4

Program Level And Subject Area	University Of Missouri					St. Louis University	Washington University	Total
	Columbia	Rolla	Kansas City	St. Louis	Sub-total			
Doctoral (Cont'd)								
English and Journalism								
Fine and Applied Arts								
Folklore								
Foreign Languages and Literature								
Forestry								
Geography								
Health Professions								
Home Economics								
Law								
Library Science								
Mathematical Subjects								
Philosophy								
Physical Sciences								
Psychology								
Records Management								
Religion								
Social Sciences								
Broad general curriculums and miscellaneous fields								
Subtotal								
Total All Program Levels								

EXHIBIT III-8

MISSOURI HIGHER EDUCATION

COURSES OFFERED BY FIELDS OF STUDY AT THE PUBLIC UNIVERSITY

(Total Credit-Hours)

Program Level, Subject Area And Field Of Study	Item Number	University Of Missouri				Total
		Columbia	Rolla	Kansas City	St. Louis	
Associate - Terminal						
Health Professions	4400					
Medical Technology	4413					
Nursing	4419					
Associate - Transfer						
Biological Sciences	1700					
General Botany	1707					
Bachelor's						
Computer Science and Systems Analysis	2100					
Engineering	2600					
Architectural Engineering	2608					
Electrical Engineering	2632					
Foreign Languages and Literature	3500					
French	3520					
Spanish	3526					
German	3540					

This is an exception report, showing only those fields of study in which courses are being offered, not all possible fields of study

Other Available Versions

Individual public institution by level of offering

EXHIBIT III-9

MISSOURI HIGHER EDUCATION

PROPOSED FIELDS OF STUDY AT THE PUBLIC UNIVERSITY

(Total Credit-Hours)

Program Level, Subject Area And Field Of Study	Item Number	University Of Missouri				Total
		Columbia	Rolla	Kansas City	St. Louis	
Associate - Terminal						
Engineering	2600					
General and other nonspecialized engineering	2647					
Associate - Transfer						
Biological Sciences	1700					
General Botany	1707					
Bachelor's						
Computer Science and Systems Analysis	2100					
Engineering	2600					
Environmental Health and Sanitary Engineering	2646					
Naval Architecture	2674					
Foreign Languages and Literature	3500					
French	3520					
Portuguese	3524					
Chinese	3564					

This is an exception report, showing only proposed fields of study, not those currently being offered.

Other Available Versions

Individual public institution by level of offering

. . . .

New Majors And Degrees Planned

D - RECORD LAYOUTS

Exhibit Number	
III-10	Program Record

EXHIBIT III-10
Page 1 of 2

MISSOURI HIGHER EDUCATION

PROGRAM RECORD

Punched Card Column	Item	Data	Code Number
1-2	Record type	Program record	41
3	Level of offering	Junior college	1
		Four-year college	2
		University	3
		Special school (seminary)	4
4	Control	Public	2
		Private	
		Religious affiliation	6
		Other	8
5-6	Institution code		
7-9	Record date	Month and year	
10-18	Record identification number	Unique number	
19-20	Faculty rank	See Exhibit V-19	
21-24	Field of study/ curriculum	Office of Education item number	
25-26	Program level and class	Undergraduate	
		Freshman or first year of junior college	01
		Sophomore or second year of junior college	02
		Junior	03
		Senior	04
		First professional	11
		Master's	21
		Doctoral	
		First year	31
		Advanced	32
		Thesis	33
		Other postgraduate	41
		Adult education	51
		Correspondence	61
		Other	71

EXHIBIT III-10
Page 2 of 2

Punched Card Column	Item	Data	Code Number
27-28	State professional classification	Primary professional	
		First year	11
		Second year	12
		Third year	13
		Fourth year	14
		Advanced professional	
		First year	21
		Second year	22
		Third year	23
		Fourth year	24
29-34	Course number	Institution's own course number	
35-44	Course title	Institution's abbreviated course title	
45-46	Section number	Institution's section number	
47-49	Building code		
50-54	Room number		
55	Course type	Lecture	1
		Laboratory	2
		Independent study	3
56-57	Credit-hours		
58-59	Weekly contact-hours		
60-62	Section size	Number of students in section	
63	First time field of study or curriculum offered	No	1
		Yes	2
64	First time course offered	No	1
		Yes	2

IV - FINANCIAL INFORMATION SUBSYSTEM

IV - FINANCIAL INFORMATION SUBSYSTEM

This chapter presents the financial information subsystem. Included in this subsystem are budget information and other financial data. Budget analyses are included to enable the Commission to carry out its responsibility for reviewing the budget recommendations of the State's higher education institutions.

Income and expenditures are measured in dollars per full-time-equivalent student to provide financial trends and comparisons between institutions of different sizes. Total State aid and student charges in higher education are compared among institutions within Missouri and in neighboring states.

The budget input will be provided by State higher education institutions. Income and expenditures data will be taken from HEGIS reports submitted by the institutions. Survey data from other states will be collected by the Commission.

This chapter includes flow charts, planning and information report formats, and input record layouts.

A - FLOW CHARTS

Exhibit Number	
IV-1	Creating Current Budget File
IV-2	Updating Current Budget File
IV-3	Creating Initial Files Or Processing Fall Financial Data
IV-4	Updating Financial History File
IV-5	Processing Planning Reports
IV-6	Processing Information Reports

EXHIBIT IV-1

MISSOURI HIGHER EDUCATION

CREATING CURRENT BUDGET FILE

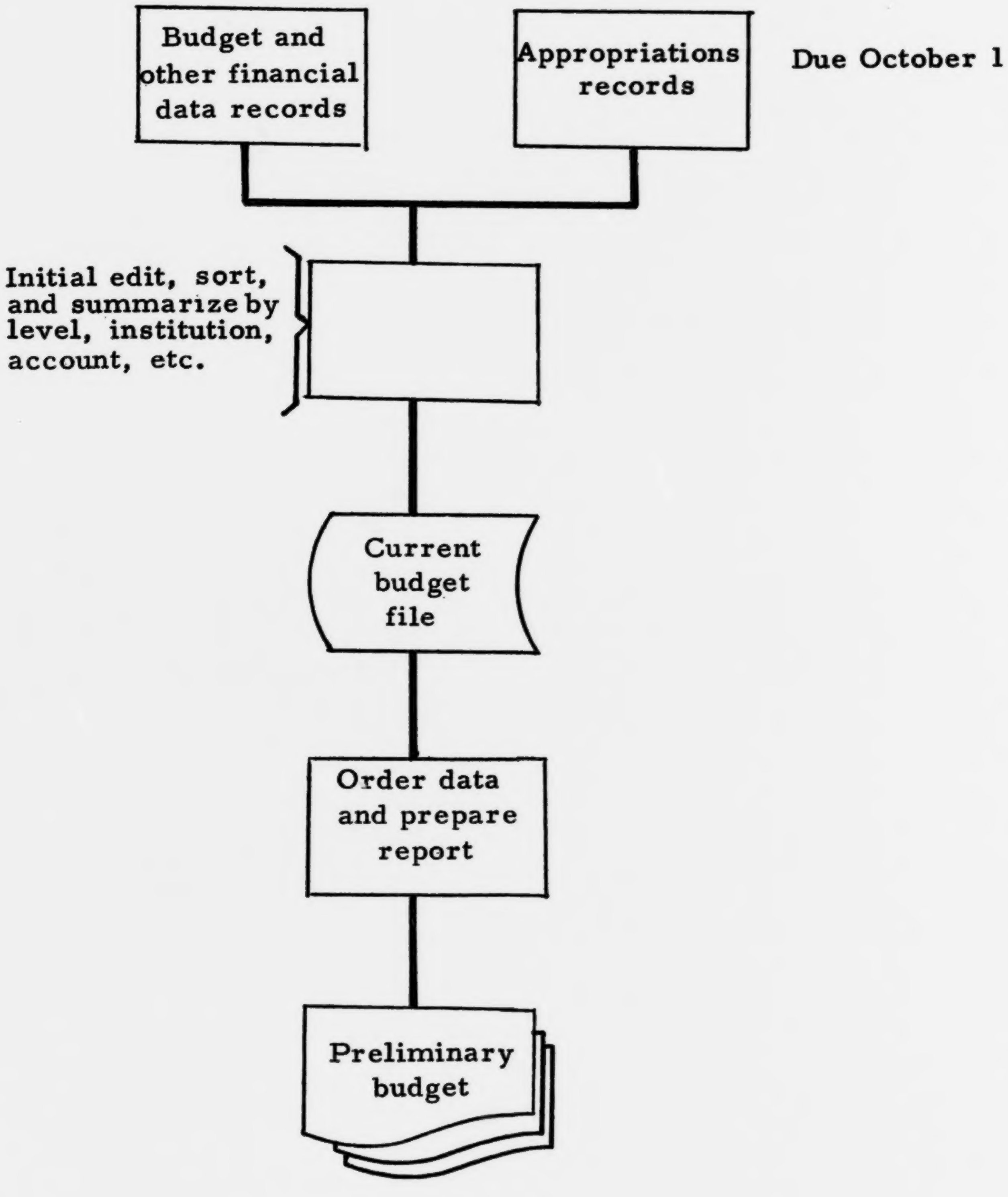
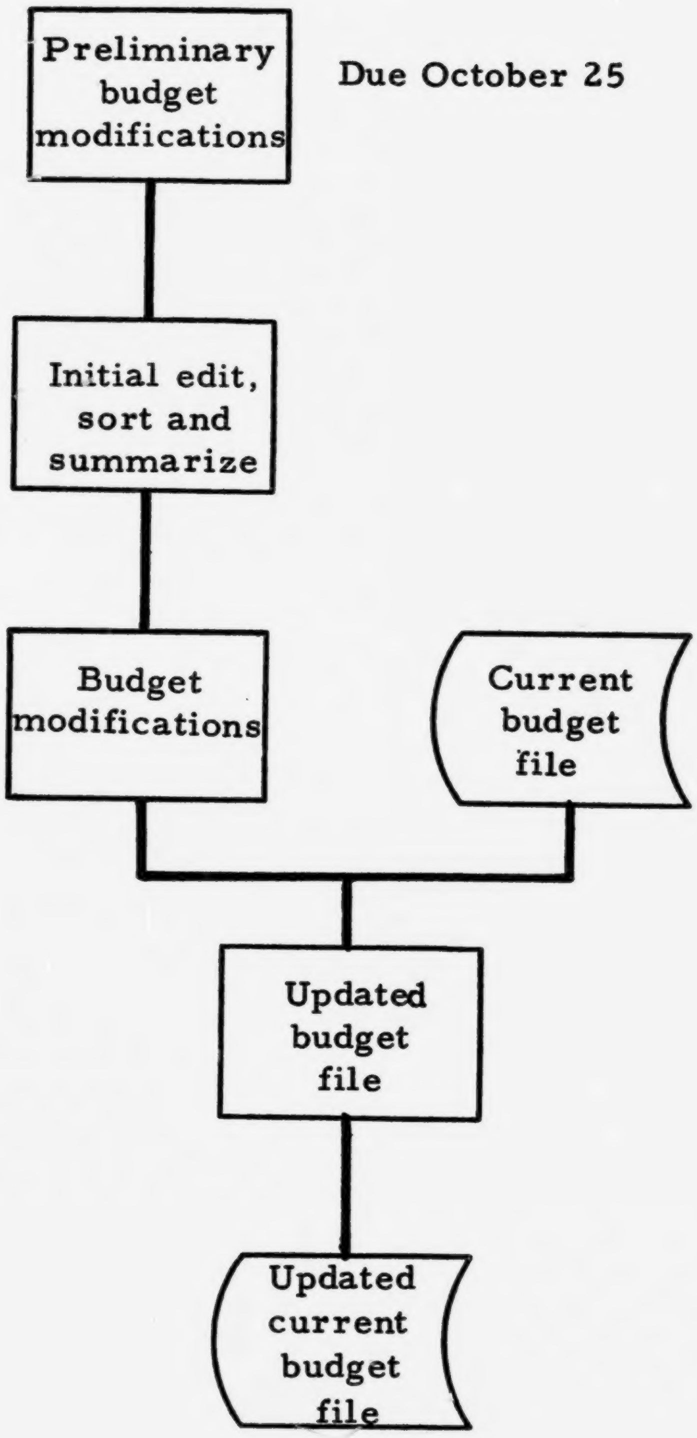

Budget and other financial data records
Appropriations records
Due October 1
Initial edit, sort, and summarize by level, institution, account, etc.
Current budget file
Order data and prepare report
Preliminary budget

EXHIBIT IV-2

MISSOURI HIGHER EDUCATION

UPDATING CURRENT BUDGET FILE


Preliminary budget modifications
Initial edit, sort and summarize
Budget modifications
Current budget file
Updated budget file
Updated current budget file

Due October 25

EXHIBIT IV-3

MISSOURI HIGHER EDUCATION

CREATING INITIAL FILES OR PROCESSING FALL FINANCIAL DATA

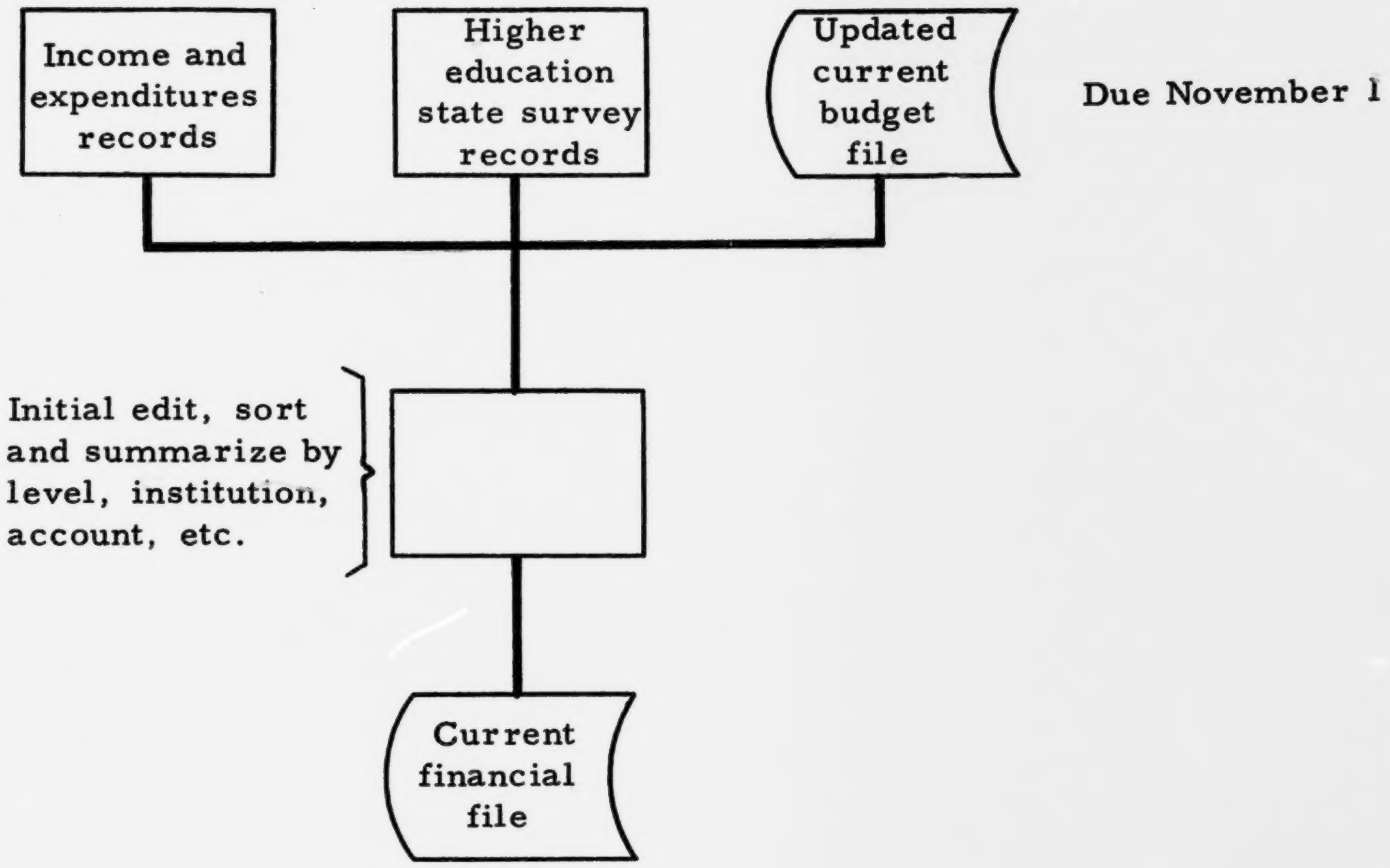

Income and expenditures records
Higher education state survey records
Updated current budget file
Due November 1
Initial edit, sort and summarize by level, institution, account, etc.
Current financial file

EXHIBIT IV-4

MISSOURI HIGHER EDUCATION

UPDATING FINANCIAL HISTORY FILE

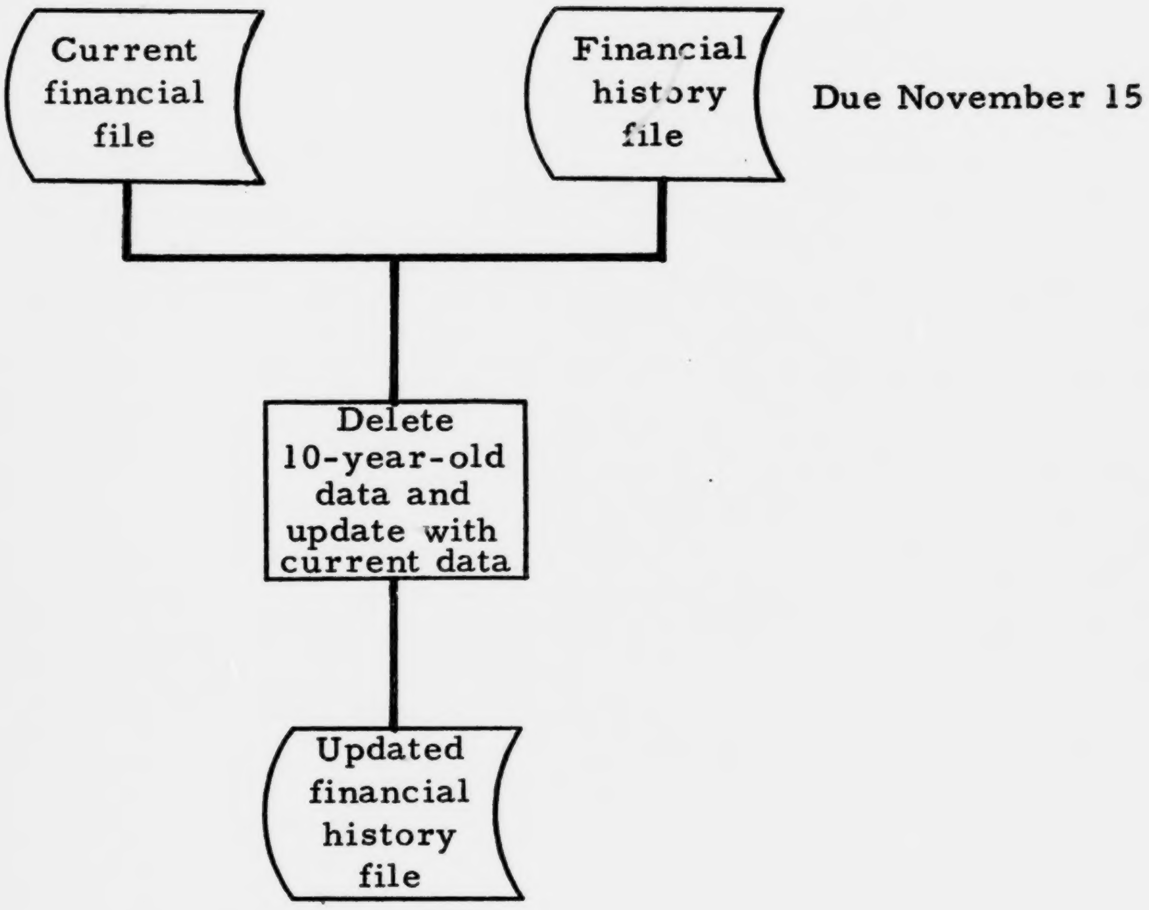

Current financial file
Financial history file
Due November 15
Delete 10-year-old data and update with current data
Updated financial history file

EXHIBIT IV-5

MISSOURI HIGHER EDUCATION

PROCESSING PLANNING REPORTS

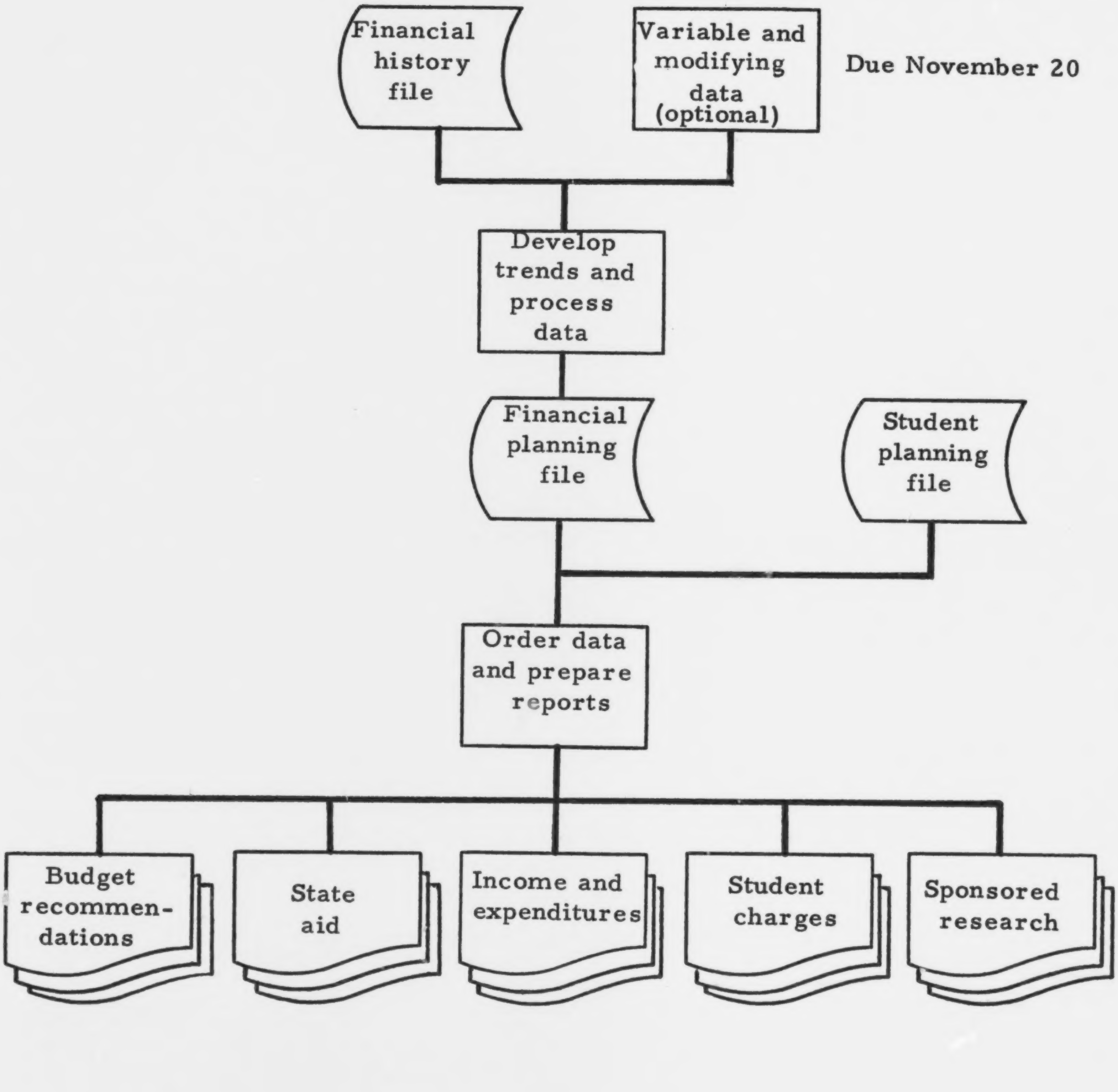
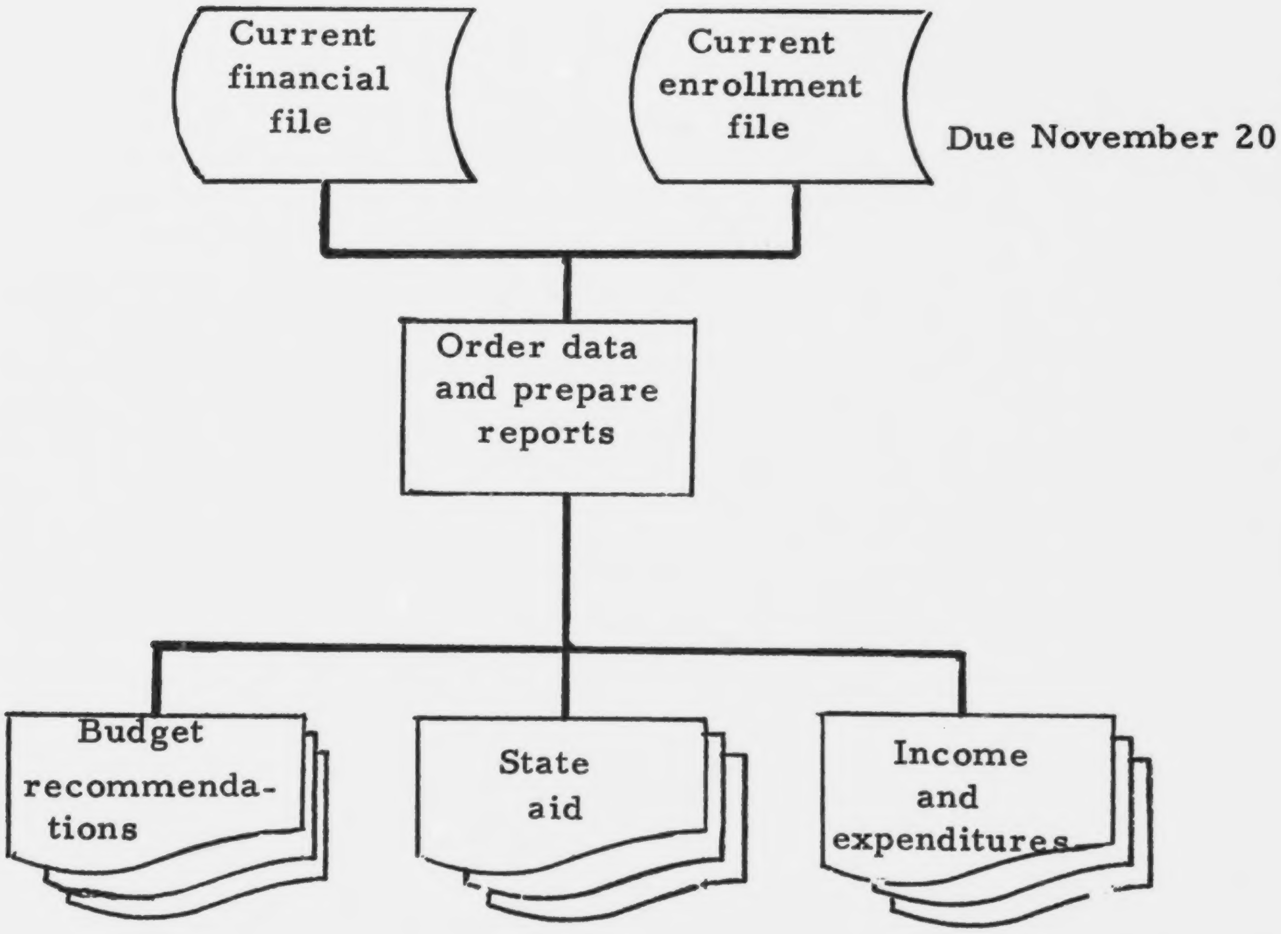

Financial history file
Variable and modifying data (optional)
Due November 20
Develop trends and process data
Financial planning file
Student planning file
Order data and prepare reports
Budget recommendations
State aid
Income and expenditures
Student charges
Sponsored research

EXHIBIT IV-6

MISSOURI HIGHER EDUCATION

PROCESSING INFORMATION REPORTS


Current financial file
Current enrollment file
Due November 20
Order data and prepare reports
Budget recommendations
State aid
Income and expenditures

B - PLANNING REPORTS FOR FUTURE MISSOURI HIGHER EDUCATION

Exhibit Number	
	Budget Recommendations
IV-7	Budget Recommendations At The Public University
	State Aid
IV-8	State Aid To The Public University
	Income And Expenditures
IV-9	Income And Expenditures At The Public University
	Student Charges
IV-10	Student Charges At Public Institutions
	Sponsored Research
IV-11	Sponsored Research

EXHIBIT IV-7

MISSOURI HIGHER EDUCATION

BUDGET RECOMMENDATIONS AT THE PUBLIC UNIVERSITY

(Thousands Of Dollars)

Category	Past Actual		Current	Projected				
	1958	1963	1968	1969	1970	1971	1973	1978
Budget								
Personal services								
Faculty								
Lower division								
Upper division								
Primary professional								
Graduate division								
Advanced professional and other graduate								
Summer allowance								
Other faculty								
Subtotal								
University retirement plan								
Nonfaculty								
Total Personal Services								
Other operating expenditures								
Grand Total								
Source								
General revenue funds								
College funds								
Total								
Budgeted Dollars Per Student								

Other Available Versions

1. State colleges
2. Public junior colleges
3. Individual public institutions upon request
4. Per cent of total

EXHIBIT IV-8
Page 1 of 2

MISSOURI HIGHER EDUCATION

STATE AID TO THE PUBLIC UNIVERSITY

Category	Past Actual		Current	Projected				
	1958	1963	1968	1969	1970	1971	1973	1978
Operating Expenditures (%)								
Personal services								
Other operating expenditures								
Total								
Capital Expenditures(%)								
Buildings								
Educational and general								
Auxiliary enterprises								
Subtotal								
Repairs and replacements								
Educational and general								
Auxiliary enterprises								
Subtotal								
Land								
Total								
Student Aid (%)								
Work assignments								
Grants								
Total								
Total State Aid (%)	100%	100%	100%	100%	100%	100%	100%	100%
Total State Aid ($000)								

Other Available Versions

1. State colleges
2. Public junior colleges
3. Individual public institutions upon request

EXHIBIT IV-8
Page 2 of 2

Category	Past Actual		Current	Projected				
	1958	1963	1968	1969	1970	1971	1973	1978
Total State Aid Per $1,000 Of Personal Income In Missouri ($)								
Average State Aid Per $1,000 Of Personal Income In Surveyed States ($)								
Number Of Students								
Aid Per Student ($) (a)								
Average Aid Per Student In Surveyed States								

(a)Excludes Universitywide programs, Agriculture Experimental Station and Medical Center.

EXHIBIT IV-9
Page 1 of 2

MISSOURI HIGHER EDUCATION

INCOME AND EXPENDITURES AT THE PUBLIC UNIVERSITY

(Per Cent Of Total)

Category	Past Actual		Current	Projected				
	1958	1963	1968	1969	1970	1971	1973	1978
Current Income								
Education and general								
Student fees								
State and local government								
Federal appropriations								
Endowment earnings								
Private gifts								
Sponsored research								
Federal								
Nonfederal								
Other sponsored programs								
Federal								
Nonfederal								
Sales and other sources								
Subtotal								
Auxiliary enterprises								
Student aid								
Total Current Income								
Per Cent	100%	100%	100%	100%	100%	100%	100%	100%
Dollars (000)								

Other Available Versions

1. State colleges
2. Public junior colleges
3. Private institutions by level of offering
4. Total dollars
5. Dollars per student
6. Dollars per credit hour

EXHIBIT IV-9
Page 2 of 2

Category	Past Actual		Current	Projected				
	1958	1963	1968	1969	1970	1971	1973	1978
Current Expenditures								
Education and general								
Instruction and departmental research								
Extension and public service								
Libraries								
Physical plant maintenance								
General administration and general expense								
Organized activities								
Organized research								
Other sponsored programs								
All other education and general								
Hospital								
Crippled children's service								
Subtotal								
Auxiliary enterprises								
Student aid								
Total Current Expenditures								
Per Cent	100%	100%	100%	100%	100%	100%	100%	100%
Dollars (000)								
Surplus Or (Deficit) Of Current Income Over Current Expenditures ($000)								

EXHIBIT IV-10
Page 1 of 2

MISSOURI HIGHER EDUCATION

STUDENT CHARGES AT PUBLIC INSTITUTIONS

Type Of Charge	Past Actual		Current	Projected				
	1958	1963	1968	1969	1970	1971	1973	1978
Tuition And Fees Per Resident Student								
Junior colleges								
Missouri								
Surveyed states								
State colleges								
Missouri								
Surveyed states								
Universities								
Missouri								
Surveyed states								
Tuition And Fees Per Nonresident Student								
Junior colleges								
Missouri								
Surveyed states								
State colleges								
Missouri								
Surveyed states								
Universities								
Missouri								
Surveyed states								

Other Available Versions

1. Private institutions
2. Individual public institutions by level of offering

EXHIBIT IV-10
Page 2 of 2

Type Of Charge	Past Actual		Current	Projected				
	1958	1963	1968	1969	1970	1971	1973	1978
Room And Board Per Student								
Junior colleges								
Missouri								
Surveyed states								
State colleges								
Missouri								
Surveyed states								
Universities								
Missouri								
Surveyed states								

EXHIBIT IV-11

MISSOURI HIGHER EDUCATION

SPONSORED RESEARCH
(Per Cent Of Current Income)

Institution By Level Of Offering And Control	Past Actual		Current	Projected				
	1958	1963	1968	1969	1970	1971	1973	1978
Public								
Junior colleges								
(detail list)								
State colleges								
(detail list)								
Public university								
(detail list)								
Private								
Junior colleges								
(detail list)								
Four-year colleges								
(detail list)								
Universities								
(detail list)								

Other Available Versions

This report format can be used to compare any income or expenditure account.

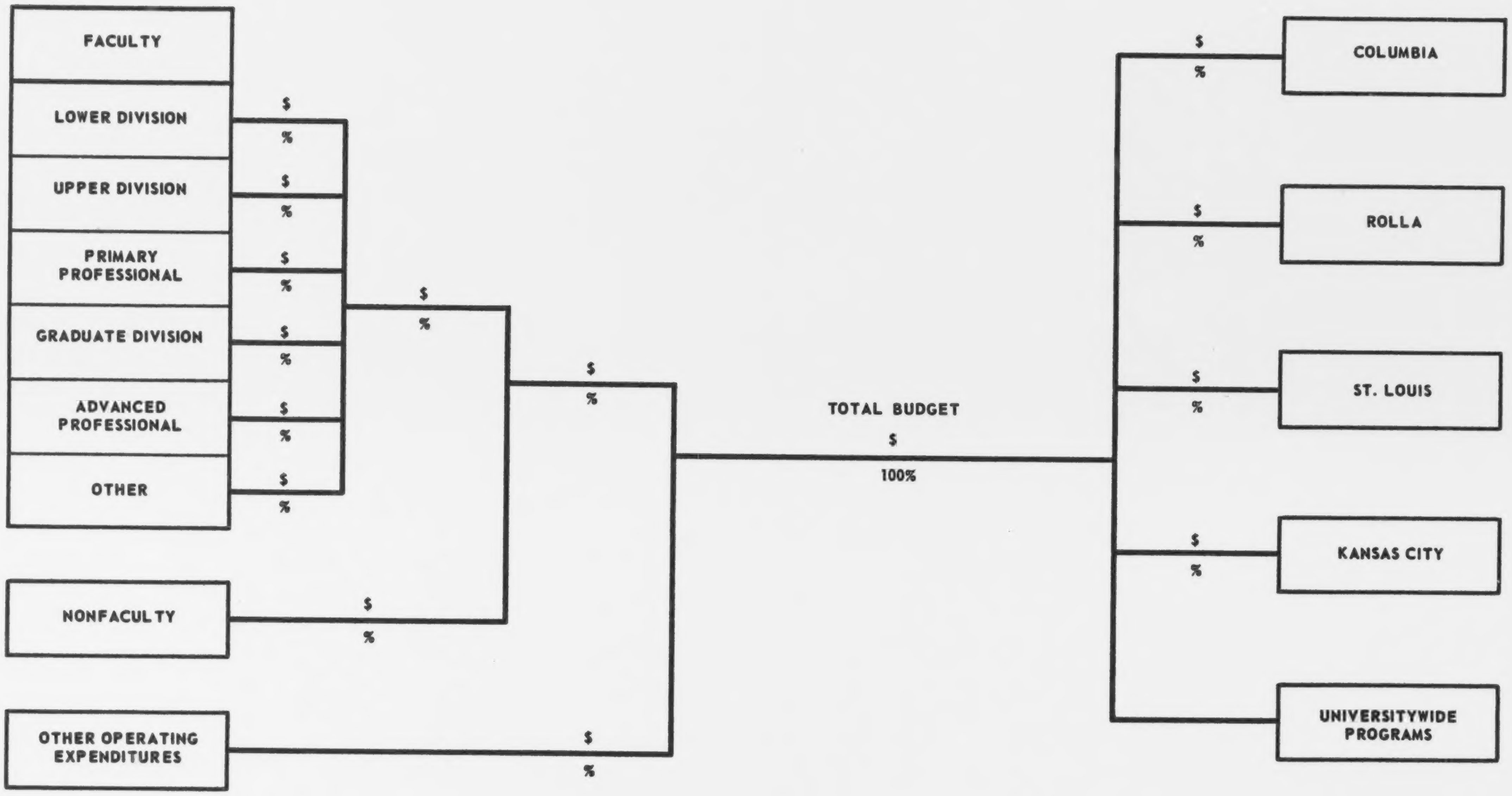
C - INFORMATION REPORTS ON CURRENT FINANCES

Exhibit Number	
	Budget Recommendations
IV-12	Budget Recommendation Breakdown At The Public University
IV-13	Recommended Budget Of The Public University
IV-14	Detail Of Recommended Budget Of The Public University
	State Aid
IV-15	State Aid To Public Institutions By Level Of Offering
	Income And Expenditures
IV-16	Current Income And Expenditures

EXHIBIT IV-12

MISSOURI HIGHER EDUCATION

BUDGET RECOMMENDATION BREAKDOWN AT THE PUBLIC UNIVERSITY


FACULTY
LOWER DIVISION
UPPER DIVISION
PRIMARY PROFESSIONAL
GRADUATE DIVISION
ADVANCED PROFESSIONAL
OTHER
NONFACULTY
OTHER OPERATING EXPENDITURES
$
%
TOTAL BUDGET
$
100%
COLUMBIA
ROLLA
ST. LOUIS
KANSAS CITY
UNIVERSITYWIDE PROGRAMS

OTHER AVAILABLE VERSIONS

1. *State colleges*
2. *Public junior colleges*
3. *All public institutions*

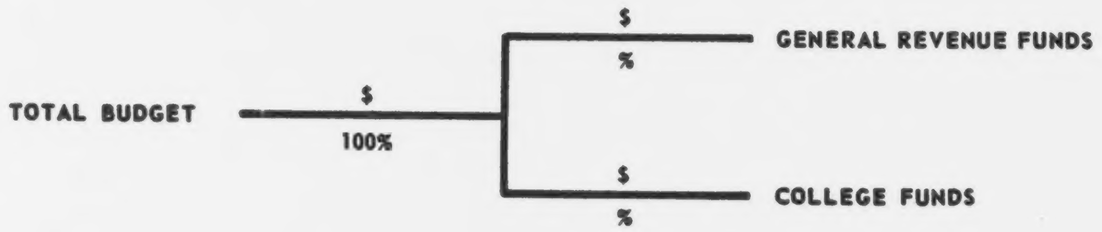

TOTAL BUDGET
$
100%
$
%
GENERAL REVENUE FUNDS
$
%
COLLEGE FUNDS

EXHIBIT IV-13

MISSOURI HIGHER EDUCATION

RECOMMENDED BUDGET OF THE PUBLIC UNIVERSITY

Category	University Of Missouri				
	Columbia	Rolla	Kansas City	St. Louis	Average
Budget(a)					
Personal services					
Faculty					
Lower division					
Upper division					
Primary professional					
Graduate division					
Advanced professional and other graduate					
Summer allowance					
Other faculty					
Subtotal Faculty					
University retirement plan					
Nonfaculty					
Total Personal Services					
Per Cent					
Dollars (000)					
Other operating expenditures					
Grand Total	100%	100%	100%	100%	100%
Per Cent					
Dollars (000)					
Source					
General revenue funds					
College funds					
Total	100%	100%	100%	100%	100%
Per Cent					
Dollars (000)					
Budgeted Dollars Per Student(a)					

Other Available Versions

1. State colleges
2. Public junior colleges
3. Total dollars

(a)Excludes Universitywide programs, Agriculture Experimental Station and Medical Center.

EXHIBIT IV-14

MISSOURI HIGHER EDUCATION

DETAIL OF RECOMMENDED BUDGET OF THE PUBLIC UNIVERSITY

Category	Budget Guideline		Commission Recommendation	Appropriation Last Year	Recommendation As A Percentage Of Last Year's Appropriation
	Number Of Faculty Or Projected Enrollment	Average Faculty Salary Or Amount Per Student			
Budget			←——(\$000)——→		
Personal services					
Faculty					
Lower division					
Upper division					
Primary professional					
Graduate division					
Advanced professional and other graduate					
Summer allowance					
Other faculty					
Subtotal Faculty					
University retirement plan					
Nonfaculty					
Total					
Other operating expenditures					
Grand Total					

Source
General revenue funds
College funds
Total

Budgeted Dollars Per Student(a)

Other Available Versions
1. State colleges
2. Public junior colleges
3. Individual public institutions

(a)Excludes Universitywide programs, Agriculture Experimental Station and Medical Center.

EXHIBIT IV-15
Page 1 of 2

MISSOURI HIGHER EDUCATION

STATE AID TO PUBLIC INSTITUTIONS BY LEVEL OF OFFERING

Category	Public			
	Junior Colleges	State Colleges	University	Total
Operating Expenditures ($000)				
Personal services				
Other operating expenditures				
Total				
Capital Expenditures ($000)				
Buildings				
Educational and general				
Auxiliary enterprises				
Subtotal				
Repairs and replacements				
Educational and general				
Auxiliary enterprises				
Subtotal				
Land				
Total				
Student Aid ($000)				
Work assignments				
Grants				
Total				
Total State Aid ($000)				
Total State Aid Per $1,000 Of Personal Income In Missouri ($000)				
Average State Aid Per $1,000 Of Personal Income In Surveyed States ($000)				

Other Available Versions

1. Public university campuses
2. State colleges
3. Public junior colleges

EXHIBIT IV-15
Page 2 of 2

Category	Public			
	Junior Colleges	State Colleges	University	Total
Number Of Students				
Aid Per Student ($000)				
Average Aid Per Student In Surveyed States ($000)				

EXHIBIT IV-16
Page 1 of 2

MISSOURI HIGHER EDUCATION

CURRENT INCOME AND EXPENDITURES

Category	University Of Missouri Year Ending June 30, 1968					St. Louis University Year Ending ______1968	Washington University Year Ending ______1968
	Columbia	Rolla	Kansas City	St. Louis	Average		
Current Income							
Education and general							
Student fees							
State and local government							
Federal appropriations							
Endowment earnings							
Private gifts							
Sponsored research							
Federal							
Nonfederal							
Other sponsored programs							
Federal							
Nonfederal							
Sales and other sources							
Subtotal							
Auxiliary enterprises							
Student aid							
Total Current Income							
Per Cent	100%	100%	100%	100%	100%	100%	100%
Dollars (000)							

Other Available Versions

1. State colleges
2. Public junior colleges
3. Private institutions by level of offering
4. Total dollars
5. Dollars per student

Category	University Of Missouri Year Ending June 30, 1968					St. Louis University Year Ending ____ 1968	Washington University Year Ending ____ 1968
	Columbia	Rolla	Kansas City	St. Louis	Average		
Current Expenditures							
Education and general							
Instruction and departmental research							
Extension and public service							
Libraries							
Physical plant maintenance							
General administration and general expense							
Organized activities							
Organized research							
Other sponsored programs							
All other education and general							
Hospital							
Crippled children's service							
Subtotal							
Auxiliary enterprises							
Student aid							
Total Current Expenditures							
Per Cent	100%	100%	100%	100%	100%	100%	100%
Dollars (000)							
Surplus Or (Deficit) Of Current Income Over Current Expenditures ($000)							

EXHIBIT IV-16
Page 2 of 2

D - RECORD LAYOUTS

Exhibit Number	
IV-17	Income Record
IV-18	Expenditures Record
IV-19	Budget And Other Financial Data Record
IV-20	Appropriations Record
IV-21	Higher Education State Survey Record

EXHIBIT IV-17
Page 1 of 2

MISSOURI HIGHER EDUCATION

INCOME RECORD

Punched Card Column	Item	Data	Code Number
1-2	Record type	Income record	12
3	Level of offering	Junior college	1
		Four-year college	2
		University	3
		Special school (seminary)	4
4	Control	Public	2
		Private	
		Religious affiliation	6
		Other	8
5-6	Institution code		
7-9	Record date	Month and year	
	CURRENT INCOME		
10-17	Student fees	Whole dollar amount	
18-25	State and local government	Whole dollar amount	
26-33	Federal appropriations	Whole dollar amount	
34-41	Endowment earnings	Whole dollar amount	
42-49	Private gifts	Whole dollar amount	
50-57	Sponsored research - federal	Whole dollar amount	
58-65	Sponsored research - nonfederal	Whole dollar amount	
66-73	Other sponsored programs - federal	Whole dollar amount	

EXHIBIT IV-17
Page 2 of 2

Punched Card Column	Item	Data	Code Number
1-2	Record type	Income record	13
3-4	Institution code		
5-7	Record date	Month and year	
	CURRENT INCOME (Cont'd)		
8-15	Other sponsored programs - nonfederal	Whole dollar amount	
16-23	Sales and other sources	Whole dollar amount	
24-31	Auxiliary enterprises	Whole dollar amount	
32-39	Student aid	Whole dollar amount	

Note: Income data will be taken from Higher Education General Information Survey (HEGIS) Form OE-2300-4.

EXHIBIT IV-18
Page 1 of 2

MISSOURI HIGHER EDUCATION

EXPENDITURES RECORD

Punched Card Column	Item	Data	Code Number
1-2	Record type	Expenditures record	14
3	Level of offering	Junior college	1
		Four-year college	2
		University	3
		Special school (seminary)	4
4	Control	Public	2
		Private	
		Religious affiliation	6
		Other	8
5-6	Institution code		
7-9	Record date	Month and year	
	CURRENT EXPENDITURES		
10-17	Instruction and departmental research	Whole dollar amount	
18-25	Extension and public service	Whole dollar amount	
26-33	Libraries	Whole dollar amount	
34-41	Physical plant maintenance	Whole dollar amount	
42-49	General administration and general expenses	Whole dollar amount	
50-57	Organized activities	Whole dollar amount	
58-65	Organized research	Whole dollar amount	
66-73	Other sponsored programs	Whole dollar amount	

EXHIBIT IV-18
Page 2 of 2

Punched Card Column	Item	Data	Code Number
1-2	Record type	Expenditures record	15
3-4	Institution code		
5-7	Record date	Month and year	
	CURRENT EXPENDITURES (Cont'd)		
8-15	All other education and general	Whole dollar amount	
16-23	Hospital	Whole dollar amount	
24-31	Crippled children's service	Whole dollar amount	
32-39	Auxiliary enterprises	Whole dollar amount	
40-47	Student aid	Whole dollar amount	

Note: Expenditures data will be taken from Higher Education General Information Survey (HEGIS) Form OE-2300-4.

EXHIBIT IV-19
Page 1 of 2

MISSOURI HIGHER EDUCATION

BUDGET AND OTHER FINANCIAL DATA RECORD

Punched Card Column	Item	Data	Code Number
1-2	Record type	Budget record	20
3	Level of offering	Junior college	1
		Four-year college	2
		University	3
		Special school (seminary)	4
4	Control	Public	2
		Private	
		Religious affiliation	6
		Other	8
5-6	Institution code		
7-9	Record date	Month and year	
10-17	Faculty - lower division	Whole dollar amount	
18-25	Faculty - upper division	Whole dollar amount	
26-32	Faculty - primary professional	Whole dollar amount	
33-39	Faculty - graduate division	Whole dollar amount	
40-47	Faculty - advanced professional and other graduate	Whole dollar amount	
48-54	Faculty - summer allowance	Whole dollar amount	
55-62	Faculty - other faculty	Whole dollar amount	
63-69	University retirement plan	Whole dollar amount	
70-77	Nonfaculty	Whole dollar amount	

EXHIBIT IV-19
Page 2 of 2

Punched Card Column	Item	Data	Code Number
1-2	Record type	Budget record	21
3-4	Institution code		
5-7	Record date	Month and year	
8-15	Other operating expenditures	Whole dollar amount	
16-24	General revenue funds	Whole dollar amount	
25-32	College funds	Whole dollar amount	
33-36	Resident tuition and fees	Whole dollar amount	
37-40	Nonresident tuition and fees	Whole dollar amount	
41-44	Average annual room and board charges	Whole dollar amount	

EXHIBIT IV-20
Page 1 of 2

MISSOURI HIGHER EDUCATION

APPROPRIATIONS RECORD

Punched Card Column	Item	Data	Code Number
1-2	Record type	Appropriations record	22
3	Level of offering	Junior college	1
		Four-year college	2
		University	3
		Special school (seminary)	4
4	Control	Public	2
		Private	
		Religious affiliation	6
		Other	8
5-6	Institution code		
7-9	Record date	Month and year	
10-17	Faculty - lower division	Whole dollar amount	
18-25	Faculty - upper division	Whole dollar amount	
26-32	Faculty - primary professional	Whole dollar amount	
33-39	Faculty - graduate division	Whole dollar amount	
40-47	Faculty - advanced professional and other graduate	Whole dollar amount	
48-54	Faculty - summer allowance	Whole dollar amount	
55-62	Faculty - other faculty	Whole dollar amount	
63-69	University retirement plan	Whole dollar amount	
70-77	Nonfaculty	Whole dollar amount	

EXHIBIT IV-20
Page 2 of 2

Punched Card Column	Item	Data	Code Number
1-2	Record type	Appropriations record	23
3-4	Institution code		
5-7	Record date	Month and year	
8-15	Other operating expenditures	Whole dollar amount	
16-24	General revenue funds	Whole dollar amount	
25-32	College funds	Whole dollar amount	
33-40	Capital expenditures for buildings	Educational and general	
41-47		Auxiliary enterprises	
48-54	Capital expenditures for repairs and replacements	Educational and general	
55-61		Auxiliary enterprises	

EXHIBIT IV-21
Page 1 of 2

MISSOURI HIGHER EDUCATION

HIGHER EDUCATION STATE SURVEY RECORD

Punched Card Column	Item	Data	Code Number
1-2	Record type	State survey record	24
3	Level of offering	Junior college	1
		Four-year college	2
		University	3
		Special school (seminary)	4
4	Control	Public	2
		Private	
		Religious affiliation	6
		Other	8
5-9	Institution code		
10-12	Record date	Month and year	
13-24	Total personal income in state	Whole dollar amount	
25-32	Total number of students enrolled in higher education		
33-42	Total state aid to higher education	Whole dollar amount	
43-52	State aid - operating expenditures	Whole dollar amount	
53-62	State aid - capital expenditures	Whole dollar amount	
63-73	State aid - student aid	Whole dollar amount	

EXHIBIT IV-21
Page 2 of 2

Punched Card Column	Item	Data	Code Number
1-2	Record type	State survey record	25
3-7	Institution code		
8-10	Record date	Month and year	
11-21	State aid - student loans	Whole dollar amount	
22-32	State aid - other	Whole dollar amount	
33-36	Average resident tuition - university	Whole dollar amount	
37-40	Average resident tuition - state colleges	Whole dollar amount	
41-44	Average resident tuition - junior colleges	Whole dollar amount	
45-48	Average nonresident tuition - university	Whole dollar amount	
49-52	Average nonresident tuition - state colleges	Whole dollar amount	
53-56	Average nonresident tuition - junior colleges	Whole dollar amount	
57-60	Average room and board charges per student - university	Whole dollar amount	
61-64	Average room and board charges per student - state colleges	Whole dollar amount	
65-68	Average room and board charges per student - junior colleges	Whole dollar amount	

V - PERSONNEL INFORMATION SUBSYSTEM

V - PERSONNEL INFORMATION SUBSYSTEM

This chapter describes the personnel information subsystem, which includes faculty, administrative and nonprofessional employees. This subsystem will provide a comprehensive view of all higher education employees in the State. Data concerning faculty and other professional employees will be presented in greater detail than data for nonprofessional employees.

Analyses will be prepared for professional employees showing primary function, subject area, utilization and workload, and individual characteristics. These reports will include nonprofessional employees where appropriate.

Detailed input records will be prepared by each institution for faculty and other professional employees. As in the student subsystem, individual identity is not required, but a unique number is needed for controlling the input. Nonprofessional employees will be reported on a summary basis by employee classification.

The description which follows includes flow charts, planning and information report formats, and input record layouts.

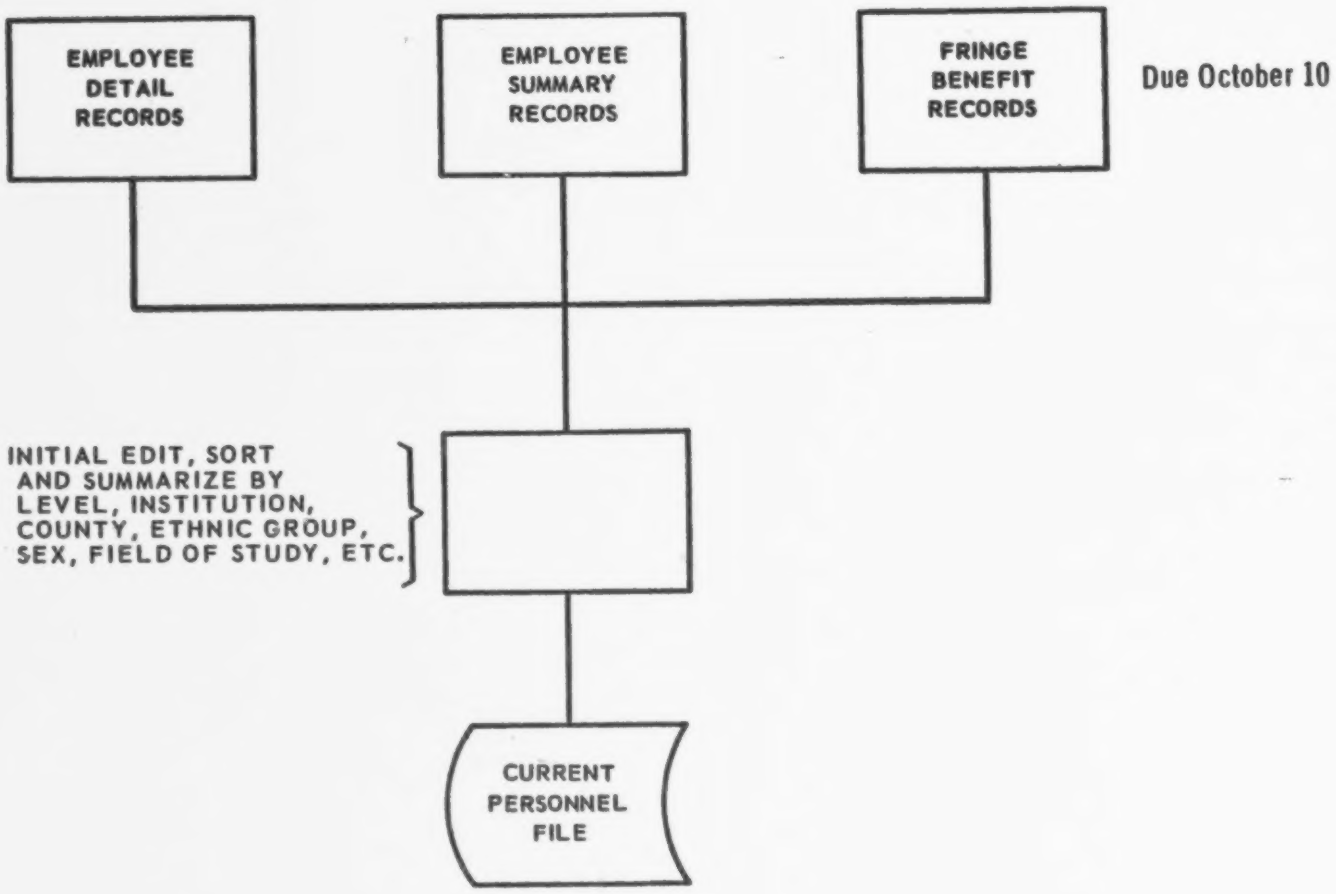
A - FLOW CHARTS

Exhibit Number	
V-1	Creating Initial Files Or Processing Fall Personnel Data
V-2	Updating Personnel And Attrition History Files
V-3	Processing Planning Reports
V-4	Processing Information Reports

EXHIBIT V-1

MISSOURI HIGHER EDUCATION

CREATING INITIAL FILES OR PROCESSING FALL PERSONNEL DATA


EMPLOYEE DETAIL RECORDS
EMPLOYEE SUMMARY RECORDS
FRINGE BENEFIT RECORDS
Due October 10
INITIAL EDIT, SORT AND SUMMARIZE BY LEVEL, INSTITUTION, COUNTY, ETHNIC GROUP, SEX, FIELD OF STUDY, ETC.
CURRENT PERSONNEL FILE

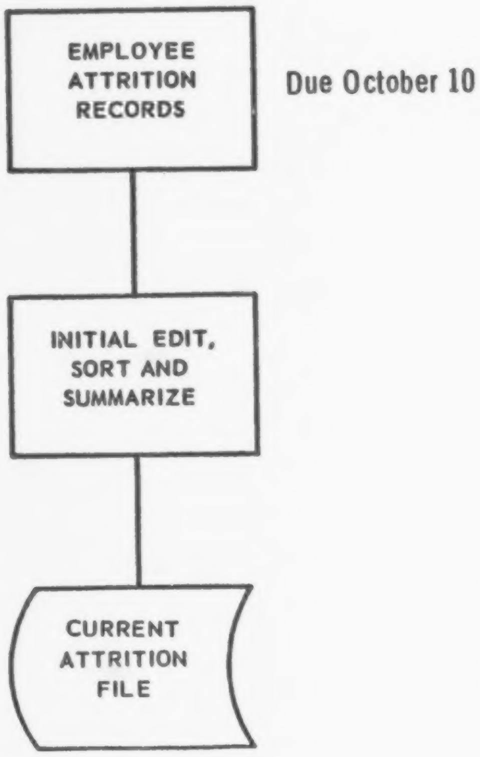

EMPLOYEE ATTRITION RECORDS
Due October 10
INITIAL EDIT, SORT AND SUMMARIZE
CURRENT ATTRITION FILE

EXHIBIT V-2

MISSOURI HIGHER EDUCATION

UPDATING PERSONNEL AND ATTRITION HISTORY FILES

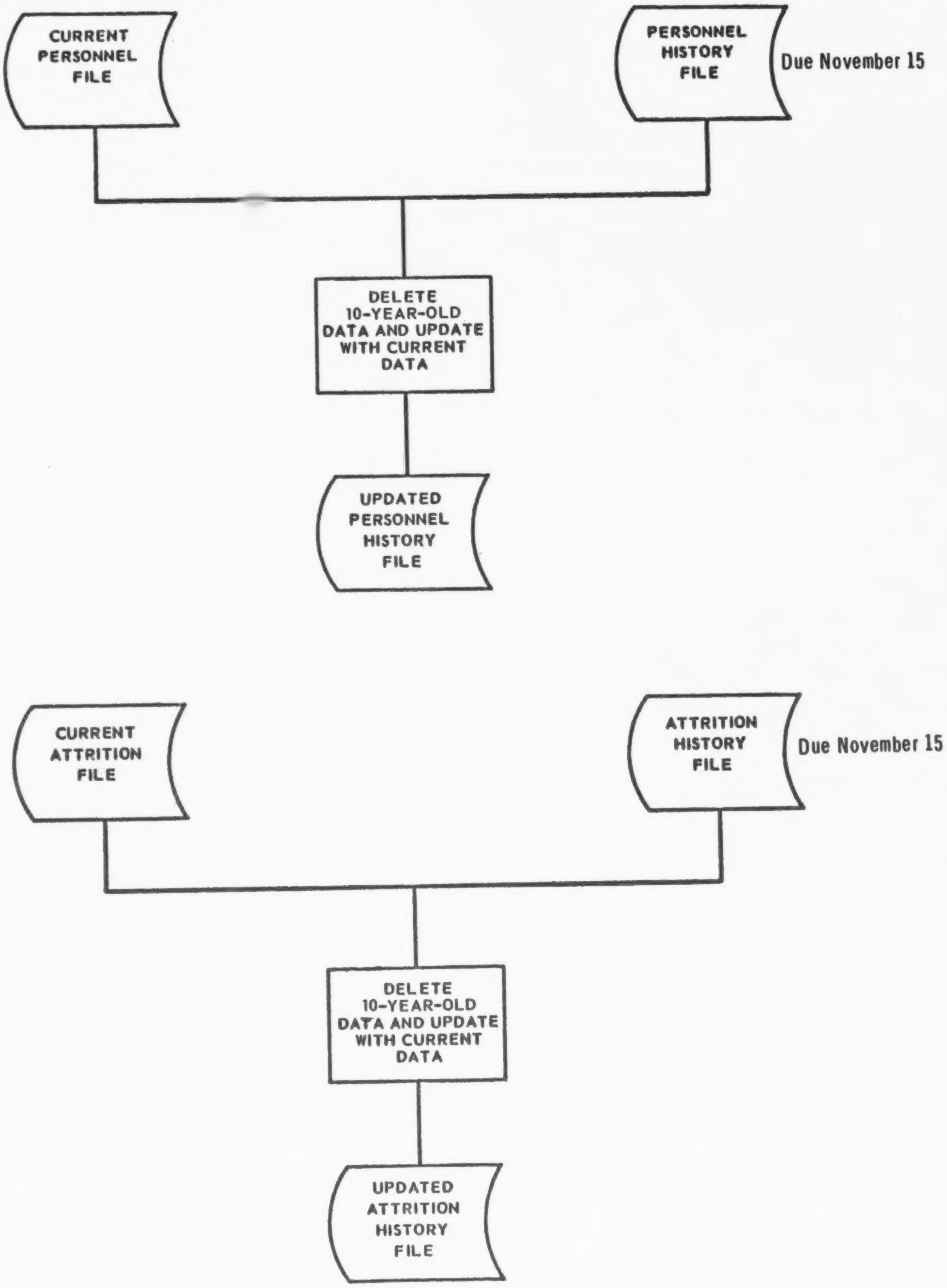

CURRENT PERSONNEL FILE
PERSONNEL HISTORY FILE
Due November 15
DELETE 10-YEAR-OLD DATA AND UPDATE WITH CURRENT DATA
UPDATED PERSONNEL HISTORY FILE
CURRENT ATTRITION FILE
ATTRITION HISTORY FILE
Due November 15
DELETE 10-YEAR-OLD DATA AND UPDATE WITH CURRENT DATA
UPDATED ATTRITION HISTORY FILE

EXHIBIT V-3

MISSOURI HIGHER EDUCATION

PROCESSING PLANNING REPORTS

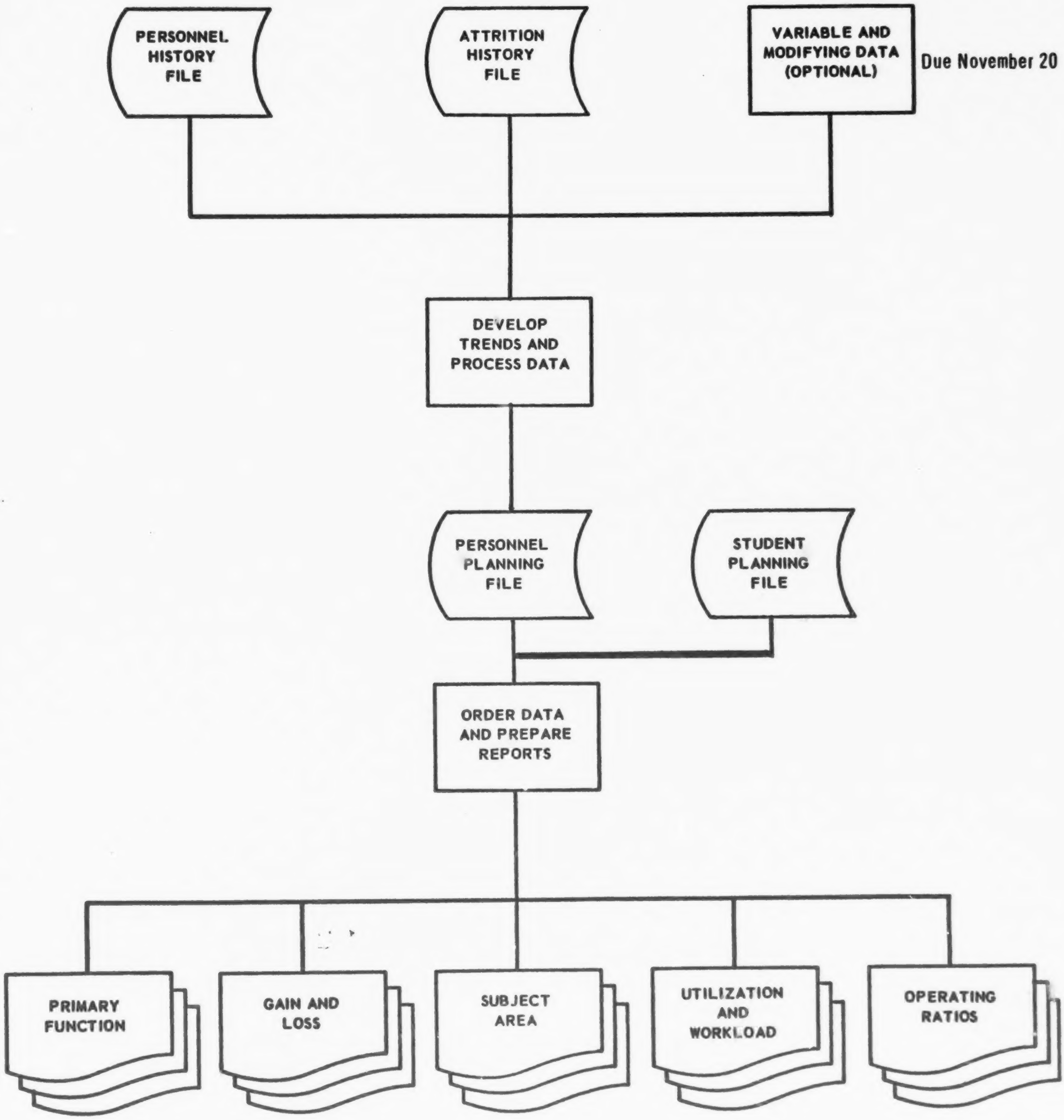
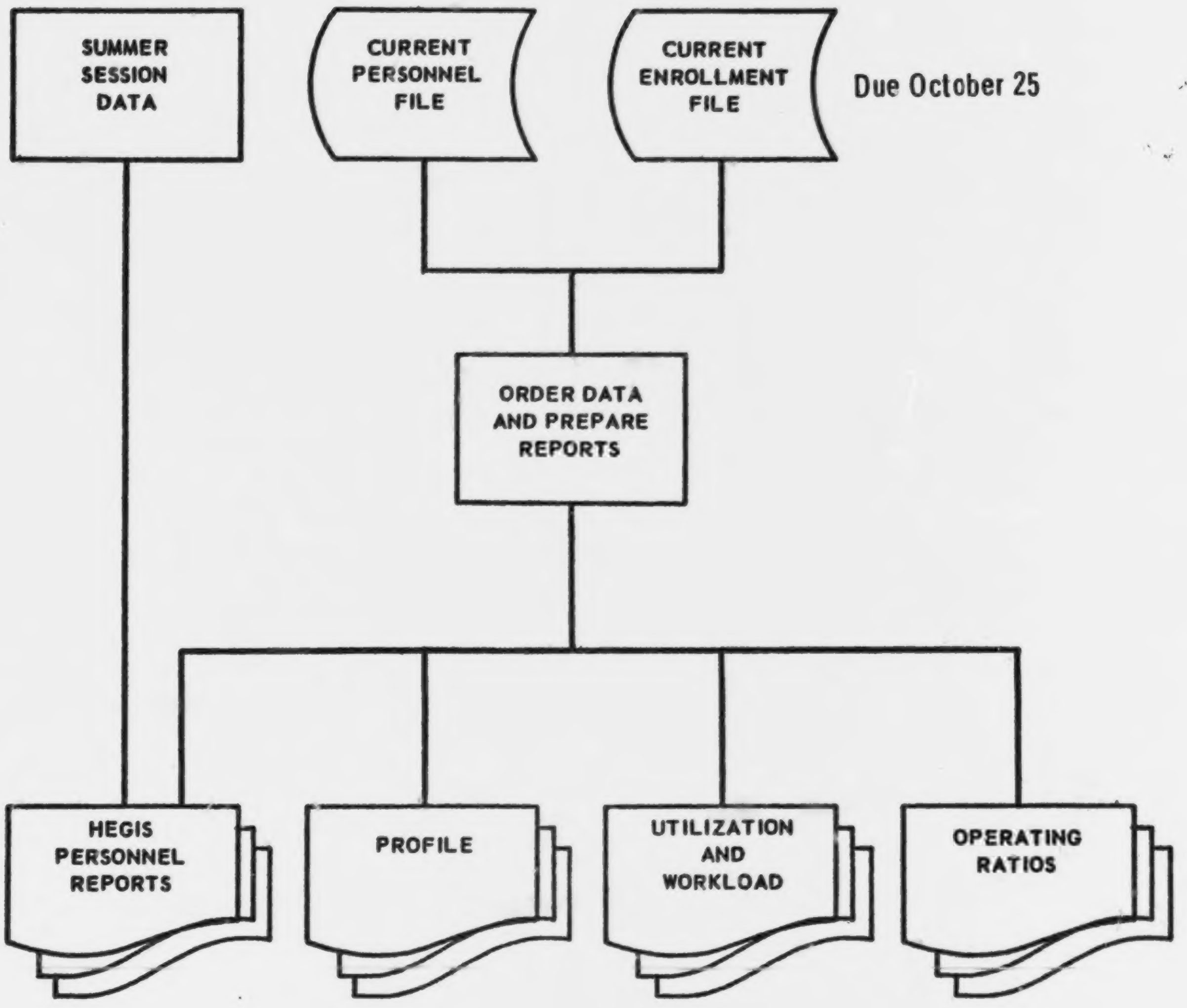

PERSONNEL HISTORY FILE
ATTRITION HISTORY FILE
VARIABLE AND MODIFYING DATA (OPTIONAL)
Due November 20
DEVELOP TRENDS AND PROCESS DATA
PERSONNEL PLANNING FILE
STUDENT PLANNING FILE
ORDER DATA AND PREPARE REPORTS
PRIMARY FUNCTION
GAIN AND LOSS
SUBJECT AREA
UTILIZATION AND WORKLOAD
OPERATING RATIOS

EXHIBIT V–4

MISSOURI HIGHER EDUCATION

PROCESSING INFORMATION REPORTS


SUMMER SESSION DATA
CURRENT PERSONNEL FILE
CURRENT ENROLLMENT FILE
ORDER DATA AND PREPARE REPORTS
HEGIS PERSONNEL REPORTS
PROFILE
UTILIZATION AND WORKLOAD
OPERATING RATIOS

Due October 25

B - PLANNING REPORTS FOR FUTURE MISSOURI HIGHER EDUCATION

Exhibit Number	
	Primary Function
V-5	Primary Function Of Full-Time Personnel
V-6	Average Annual Salary Of Full-Time Staff At The Public University
	Gain And Loss
V-7	Gain And Loss Of Full-Time Instructional Staff At The Public University
	Subject Area
V-8	Instructional Staff By Subject Area At The Public University
	Utilization And Workload
V-9	Utilization And Workload Of Full-Time Instructional Staff
	Operating Ratios
V-10	Operating Ratios At The Public University Of Full-Time-Equivalent Staff

EXHIBIT V-5
Page 1 of 2

MISSOURI HIGHER EDUCATION

PRIMARY FUNCTION OF FULL-TIME PERSONNEL

(Per Cent Of Full-Time Staff)

Primary Function	Past Actual		Current	Projected				
	1958	1963	1968	1969	1970	1971	1973	1978
Professional								
Administration								
Instruction								
Academic Deans								
Professors								
Associate Professors								
Assistant Professors								
Instructors								
Junior staff								
Other								
Subtotal								
Organized research								
Library								
Extension and public service								
Auxiliary enterprises								
Student services								
Other								
Total Professionals								

Other Available Versions

1. Numbers of full-time staff upon request
2. Level of offering
3. Level of offering and control
4. Per cent of FTE staff
5. Individual public institutions upon request

EXHIBIT V-5
Page 2 of 2

Primary Function	Past Actual		Current	Projected				
	1958	1963	1968	1969	1970	1971	1973	1978
Nonprofessional								
Secretarial								
Instructional								
Other								
Clerical								
Maintenance								
Technical								
Total Nonprofessional								
Grand Total								
Per Cent	100%	100%	100%	100%	100%	100%	100%	100%
Number								
Number of students								

EXHIBIT V-6
Page 1 of 2

MISSOURI HIGHER EDUCATION

AVERAGE ANNUAL SALARY OF FULL-TIME-STAFF AT THE PUBLIC UNIVERSITY

Primary Function	Past Actual		Current	Projected				
	1958	1963	1968	1969	1970	1971	1973	1978
Professional								
Administration								
Instruction								
Academic Deans								
Professors								
Assistant Professors								
Instructors								
Junior staff								
Other								
Average								
Organized research								
Library								
Extension and public service								
Auxiliary enterprises								
Student services								
Other								
Average Professional								

Other Available Versions

1. State colleges
2. Public junior colleges
3. Level of offering
4. FTE staff
5. Individual public institutions upon request

EXHIBIT V-6
Page 2 of 2

Primary Function	Past Actual		Current	Projected				
	1958	1963	1968	1969	1970	1971	1973	1978
Nonprofessional								
Secretarial								
Instructional								
Other								
Clerical								
Maintenance								
Technical								
Average Nonprofessional								
Average Personnel								
Total Number Of Personnel								

EXHIBIT V-7

MISSOURI HIGHER EDUCATION

GAIN AND LOSS OF FULL-TIME INSTRUCTIONAL STAFF AT THE PUBLIC UNIVERSITY

(Years Ending August 30)

Category	Past Actual		Current	Projected				
	1958	1963	1968	1969	1970	1971	1973	1978
Beginning Of Year Total								
Gains								
Transfers								
From other Missouri institutions								
From other states								
From other countries								
Subtotal								
First-time teaching								
Leaves and sabbaticals								
Total Gains								
Grand Total Beginning And Gains								
Losses								
Transfers								
To other Missouri institutions								
To other states								
To other countries								
Subtotal								
Other reasons for leaving								
Retirement or death								
Other occupation								
Further study								
Other								
Subtotal								
Leaves and sabbaticals								
Total Losses								
End Of Year Total								

Other Available Versions

1. State college
2. Public junior colleges
3. Private institutions by level of offering
4. Transfers to and from individual Missouri institutions upon request
5. Transfers to and from individual states or countries upon request
6. Rank upon request

EXHIBIT V-8
Page 1 of 2

MISSOURI HIGHER EDUCATION

INSTRUCTIONAL STAFF BY SUBJECT AREA AT THE PUBLIC UNIVERSITY

(Per Cent Of Full-Time-Equivalent Instructional Staff)

Subject Area	Item Number	Past Actual		Current	Projected				
		1958	1963	1968	1969	1970	1971	1973	1978
Agriculture	1000								
Architecture	1400								
Biological Science	1700								
Business And Commerce	2000								
City Planning	1500								
Computer Science And System Analysis	2100								
Education	2300								
Engineering	2600								
English And Journalism	2900								
Fine And Applied Arts	3200								
Folklore	3300								
Foreign Language And Literature	3500								
Forestry	3800								
Geography	4100								
Health Professions	4400								
Home Economics	4700								
Law	5000								
Library Science	5300								
Mathematical Subjects	5600								
Philosophy	6500								
Physical Sciences	6800								
Psychology	7100								
Records Management	7300								
Religion	7400								

Other Available Versions

1. State colleges
2. Public junior colleges
3. Private institutions by level of offering
4. Per cent of full-time staff upon request
5. Individual public institutions upon request
6. Fields of study upon request

EXHIBIT V-8
Page 2 of 2

Subject Area	Item Number	Past Actual		Current	Projected				
		1958	1963	1968	1969	1970	1971	1973	1978
Social Sciences	7700								
Broad General Curriculums And Miscellaneous Fields	8300								
Total									
Per Cent		100%	100%	100%	100%	100%	100%	100%	100%
Number									

EXHIBIT V-9
Page 1 of 2

MISSOURI HIGHER EDUCATION

UTILIZATION AND WORKLOAD OF FULL-TIME INSTRUCTIONAL STAFF

Utilization And Workload Measure	Past Actual		Current	Projected				
	1958	1963	1968	1969	1970	1971	1973	1978
Public Junior Colleges								
Average scheduled hours per faculty member								
Instruction								
Administration								
Departmental research								
Organized research								
Other								
Total								
Workload								
Contact-hours per faculty member								
Credit-hours per faculty member								
State Colleges								
Average scheduled hours per faculty member								
Instruction								
Administration								
Departmental research								
Organized research								
Other								
Total								
Workload								
Contact-hours per faculty member								
Credit-hours per faculty member								

Other Available Versions

1. Private institutions by level of offering
2. Rank upon request
3. Subject area upon request
4. Individual public institutions upon request

EXHIBIT V-9
Page 2 of 2

Utilization And Workload Measure	Past Actual		Current	Projected				
	1958	1963	1968	1969	1970	1971	1973	1978
Public University								
Average scheduled hours per faculty member								
Instruction								
Administration								
Departmental research								
Organized research								
Other								
Total								
Workload								
Contact-hours per faculty member								
Credit-hours per faculty member								

EXHIBIT V-10

MISSOURI HIGHER EDUCATION

OPERATING RATIOS OF FULL-TIME-EQUIVALENT STAFF AT THE PUBLIC UNIVERSITY

Category	Past Actual		Current	Projected				
	1958	1963	1968	1969	1970	1971	1973	1978
Student/Faculty								
Associate - terminal/faculty								
Associate - transfer/faculty								
Bachelor's/faculty								
First professional/faculty								
Master's/faculty								
Doctoral/faculty								
Overall Student/Faculty Ratio								
Student/Support Staff								
Student/library								
Undergraduate students								
Graduate students								
Student/student services								
Student/auxiliary enterprises								
Student/administration								
Overall Student/Support Staff Ratio								
Faculty/Support Staff								
Faculty/library								
Faculty/secretarial								
Faculty/administration								
Overall Faculty/Support Staff Ratio								
Number Of Faculty								
Number Of Students								

Other Available Versions

1. State colleges
2. Public junior colleges
3. Private institutions by level of offering
4. Individual public institutions upon request

C - INFORMATION REPORTS ON CURRENT PERSONNEL

Exhibit Number	
	Profile
V-11	Profile By Primary Function
V-12	Average Annual Salaries Of Full-Time Personnel At The State Colleges
V-13	Rank Of Full-Time Instructional Staff By Subject Area At The Public University
V-14	Profile Of Personnel Attributes
V-15	Fringe Benefits
	Utilization And Workload
V-16	Utilization And Workload Of Full-Time Instructional Staff At The Public University
	Operating Ratios
V-17	Operating Ratios Of Full-Time-Equivalent Staff

EXHIBIT V-11
Page 1 of 2

MISSOURI HIGHER EDUCATION

PROFILE BY PRIMARY FUNCTION
(Per Cent Of Full-Time Staff)

Primary Function	Public				Private				Total
	Junior Colleges	State Colleges	University	Subtotal	Junior Colleges	Four-Year Colleges	Universities	Subtotal	
Professional									
Administration									
Instruction									
Academic Deans									
Professors									
Associate Professors									
Assistant Professors									
Instructors									
Junior staff									
Other									
Subtotal									
Organized research									
Library									
Extension and public service									
Auxiliary enterprises									
Student services									
Other									
Total Professional									

Other Available Versions

1. Individual public institutions by level of offering
2. FTE staff upon request
3. Part-time staff upon request

EXHIBIT V-11
Page 2 of 2

Primary Function	Public				Private				
	Junior Colleges	State Colleges	University	Subtotal	Junior Colleges	Four-Year Colleges	Universities	Subtotal	Total
Nonprofessional									
Secretarial									
Instructional									
Other									
Clerical									
Maintenance									
Technical									
Total Nonprofessional									
Grand Total									
Per Cent	100%	100%	100%	100%	100%	100%	100%	100%	100%
Number									

EXHIBIT V-12

MISSOURI HIGHER EDUCATION

AVERAGE ANNUAL SALARIES OF FULL-TIME PERSONNEL AT THE STATE COLLEGES

Primary Function	Central Missouri	Northeast Missouri	Northwest Missouri	Southeast Missouri	Southwest Missouri	Lincoln University	Average
Professional							
Administration							
Instruction							
Academic Deans							
Professors							
Associate Professors							
Assistant Professors							
Instructors							
Junior staff							
Other							
Average							
Organized research							
Library							
Extension and public service							
Auxiliary enterprises							
Student services							
Other							
Average Professional							
Nonprofessional							
Secretarial							
Instructional							
Other							
Clerical							
Maintenance							
Technical							
Average Nonprofessional							
Average All Personnel							

Other Available Versions

1. Public university
2. Public junior colleges
3. Part-time personnel
4. Years of service upon request

EXHIBIT V-13
Page 1 of 2

MISSOURI HIGHER EDUCATION

RANK OF FULL-TIME INSTRUCTIONAL STAFF BY SUBJECT AREA AT THE PUBLIC UNIVERSITY

Subject Area	Item Number	Academic Deans	Professors	Associate Professors	Assistant Professors	Instructors	Junior Staff	Other	Total Instructional Staff
Agriculture	1000								
Architecture	1400								
Biological Science	1700								
Business And Commerce	2000								
City Planning	1500								
Computer Science And System Analysis	2100								
Education	2300								
Engineering	2600								
English And Journalism	2900								
Fine And Applied Arts	3200								
Folklore	3300								
Foreign Language And Literature	3500								
Forestry	3800								
Geography	4100								
Health Professions	4400								
Home Economics	4700								
Law	5000								
Library Science	5300								
Mathematical Subjects	5600								
Philosophy	6500								
Physical Sciences	6800								
Psychology	7100								

Other Available Versions

1. State colleges
2. Public junior colleges
3. Private institutions by level of offering
4. Fields of study upon request

EXHIBIT V-13
Page 2 of 2

Subject Area	Item Number	Academic Deans	Professors	Associate Professors	Assistant Professors	Instructors	Junior Staff	Other	Total Instructional Staff
Records Management	7300								
Religion	7400								
Social Sciences	7700								
Broad General Curriculums And Miscellaneous Fields	8300								
Total Instructional Staff									

EXHIBIT V-14
Page 1 of 2

MISSOURI HIGHER EDUCATION

PROFILE OF PERSONNEL ATTRIBUTES

(Per Cent Of Full-Time Instructional Staff)

Category	Public				Private				Total
	Junior Colleges	State Colleges	University	Subtotal	Junior Colleges	Four-Year Colleges	Universities	Subtotal	
Age									
Under 21									
21-30									
31-40									
41-50									
51-60									
61-70									
Over 70									
Average									
Ethnic Group									
American Indian									
Negro									
Oriental									
Spanish American									
Other									
Sex									
Male									
Female									

Other Available Versions

1. Other professional staff
2. Nonprofessional staff
3. Individual public institutions by level of offering
4. Part-time staff upon request

EXHIBIT V-14
Page 2 of 2

Category	Public				Private				Total
	Junior Colleges	State Colleges	University	Subtotal	Junior Colleges	Four-Year Colleges	Universities	Subtotal	
Highest Degree									
Doctoral									
Master's									
First professional									
Bachelor's									
Associate									
Other									
Total Years Of Teaching Experience At This Institution									
0-2									
3-5									
6-20									
Over 20									
Average									

EXHIBIT V-15

MISSOURI HIGHER EDUCATION

FRINGE BENEFITS

(Expenditures Per Covered Full-Time Faculty Member)

Fringe Benefit	Public				Private				Overall Average
	Junior Colleges	State Colleges	University	Average	Junior Colleges	Four-Year Colleges	Universities	Average	
Retirement Plan									
Vested									
Not vested									
Hospitalization									
Guaranteed Disability Income Protection									
Tuition Plan									
Sabbatical Plan									
Housing Plan									
Social Security Taxes (FICA)									
Unemployment Compensation Taxes									
Group Life Insurance									
Total Fringe Benefits									

Other Available Versions

1. Individual public institution by level of offering
2. Faculty rank upon request

EXHIBIT V-16

MISSOURI HIGHER EDUCATION

UTILIZATION AND WORKLOAD OF FULL-TIME INSTRUCTIONAL STAFF AT THE PUBLIC UNIVERSITY

Utilization And Workload Measure	University Of Missouri				Average
	Columbia	Rolla	Kansas City	St. Louis	
Average Scheduled Hours Per Faculty Member					
Instruction					
Administration					
Departmental research					
Organized research					
Other					
Total					
Workload Per Faculty Member					
Contact-hours					
Credit-hours					

Other Available Versions

1. State colleges
2. Public junior colleges

EXHIBIT V-17

MISSOURI HIGHER EDUCATION

OPERATING RATIOS OF FULL-TIME-EQUIVALENT STAFF

Category	Public				Private				Overall
	Junior Colleges	State Colleges	University	Average	Junior Colleges	Four-Year Colleges	Universities	Average	
Student/Faculty									
Associate - terminal/faculty									
Associate - transfer/faculty									
Bachelor's/faculty									
First professional/faculty									
Master's/faculty									
Doctoral/faculty									
Overall Student/Faculty Ratio									
Student/Support Staff									
Student/administration									
Student/library									
Undergraduate students									
Graduate students									
Student/student services									
Student/auxiliary enterprises									
Overall Student/Support Staff Ratio									
Faculty/Support Staff									
Faculty/library									
Faculty/secretarial									
Faculty/administration									
Overall Faculty/Support Staff Ratio									
Number Of Faculty									
Number Of Students									

Other Available Versions

1. Individual public institutions by level of offering
2. Full-time staff

D - RECORD LAYOUTS

Exhibit Number	
V-18	Employee Detail Record
V-19	Personnel Primary Function Code List
V-20	Employee Summary Record
V-21	Employee Attrition Record
V-22	Fringe Benefits Record

EXHIBIT V-18
Page 1 of 2

MISSOURI HIGHER EDUCATION

EMPLOYEE DETAIL RECORD

Punched Card Column	Item	Data	Code Number
1-2	Record type	Employee record	
		Full-time professional staff	04
		Part-time professional staff	05
3	Level of offering	Junior college	1
		Four-year college	2
		University	3
		Special school (seminary)	4
4	Control	Public	2
		Private	
		Religious affiliation	6
		Other	8
5-6	Institution code		
7-9	Record date	Month and year	
10-18	Record identification number	Unique number	
19-21	Primary function	See Exhibit V-19	
22	Sex	Male	M
		Female	F
23-24	Year of birth	Last two digits of year of birth	
25	Ethnic group	American Indian	1
		Negro	2
		Oriental	3
		Spanish American	4
		Other	5
26	Marital status	Single	S
		Married	M
27-32	Annual salary	Whole dollar amounts (annualize part-time salaries)	
33	Compensation period	9-10 months	1
		11-12 months	2
34-35	Service date	Last two digits of year joined instructional staff	

Punched Card Column	Item	Data	Code Number
36	Highest degree	Doctoral	1
		Master's	2
		First professional	3
		Bachelor's	4
		Associate	5
		Other	6
37-41	Institution granting highest degree	Federal educational institution code	
42-46	Institution granting first degree	Federal educational institution code	
FACULTY PERSONNEL ONLY			
47-48	Year granted tenure	Last two digits of year granted tenure	
49-52	Field of study currently teaching	Office of Education Item number	
53-55	Credit-hours currently teaching		
56-57	Teaching contact-hours	Weekly hours scheduled	
58-59	Administration hours	Weekly hours scheduled	
60-61	Departmental research hours	Weekly hours scheduled	
62-63	Organized research hours	Weekly hours scheduled	
64-65	Other hours	Weekly hours scheduled	
NEW FACULTY WITHIN LAST YEAR ONLY			
66	Transfer from	In state	1
		Out of state	2
		Out of country	3
67-71	Other college code	Federal educational institution code	
72-74	Foreign country		
75	First time teaching code	Yes	Y
		No	N

EXHIBIT V-19
Page 1 of 3

PERSONNEL PRIMARY FUNCTION CODE LIST

Item	Code Number
Instruction and Departmental Research	
Professional	
Academic Deans	001
Professors	002
Associate Professors	003
Assistant Professors	004
Instructors	005
Junior staff	006
Other	007
Nonprofessional	
Secretarial	008
Clerical	009
Technical	010
Other	011
Organized Research	
Professional	
Academic Deans	020
Professors	021
Associate Professors	022
Assistant Professors	023
Instructors	024
Junior staff	025
Other	026
Nonprofessional	
Secretarial	027
Clerical	028
Technical	029
Other	030
Library	
Professional	
Professional librarian	040
Other	041
Nonprofessional	
Secretarial	042
Clerical	043
Technical	044
Other	045

EXHIBIT V-19
Page 2 of 3

Item	Code Number
Extension and Public Service	
Professional	
Formal instruction	050
Consultation	051
Other	052
Nonprofessional	
Secretarial	053
Clerical	054
Technical	055
Other	056
Auxiliary Services	
Professional	060
Nonprofessional	
Secretarial	061
Clerical	062
Technical	063
Other	064
Schools Operated By The Institution	
Professional	
Elementary schools	065
Secondary schools	066
Nonprofessional	
Secretarial	067
Clerical	068
Technical	069
Other	070
Student Services	
Professional	075
Nonprofessional	
Secretarial	076
Clerical	077
Technical	078
Other	079
Administration	
Professional	
President	080
Executive Vice President, General Administration	081
Director, Institutional Studies	082
Director, Planning	083
Dean or Vice President, Academic Administration	084

EXHIBIT V-19

Item	Code Number
Professional (Cont'd)	
Director, Audiovisual	085
Director, Evening School	086
Director, Extension (including adult)	087
Dean, Graduate Program	088
Administrator, Organized Research	089
Director, Summer Session(s)	090
Dean of Students	091
Director, Admissions	092
Director, College Union (Student Union)	093
Director or Advisor, Foreign Student Affairs	094
Registrar	095
Director, Student Aid	096
Director, Student Health	097
Dean of Men	098
Dean of Women	099
Vice President for Development and Public Relations	100
Alumni Secretary	101
Director, Development (Fund Raising)	102
Director, Placement Services	103
Director, Public Relations (Information)	104
Business Manager or Vice President	105
Manager, Bookstore	106
Budget Officer or Controller	107
Director, Food Services	108
Director, Housing	109
Director, Nonacademic Personnel	110
Director, Physical Plant	111
Purchasing Agent	112
Director, Intercollegiate Athletics	113
Nonprofessional	
Secretarial	120
Clerical	121
Maintenance	122
Technical	123
Other	124
Other Employees	
Professional	130
Nonprofessional	
Secretarial	131
Clerical	132
Maintenance	133
Technical	134
Other	135

EXHIBIT V-20

MISSOURI HIGHER EDUCATION

EMPLOYEE SUMMARY RECORD

Punched Card Column	Item	Data	Code Number
1-2	Record type	Employee record	
		Full-time non-professional staff	06
		Part-time non-professional staff	07
3	Level of offering	Junior college	1
		Four-year college	2
		University	3
		Special school (seminary)	4
4	Control	Public	2
		Private	
		Religious affiliation	6
		Other	8
5-6	Institution code		
7-9	Record date	Month and year	
10-14	Number of employees		
15-17	Primary function	See Exhibit V-19	
18	Union affiliation	Yes	Y
		No	N
19	Compensation basis	Hourly	1
		Annual	2
20-22	Average monthly hours		
23-27	Average rate		

EXHIBIT V-21
Page 1 of 2

MISSOURI HIGHER EDUCATION

EMPLOYEE ATTRITION RECORD

Punched Card Column	Item	Data	Code Number
1-2	Record type	Attrition record	08
3	Level of offering	Junior college	1
		Four-year college	2
		University	3
		Special school (seminary)	4
4	Control	Public	2
		Private	
		Religious affiliation	6
		Other	8
5-6	Institution code		
7-9	Record date	Month and year	
10-18	Record identification number	Unique number	
19-21	Primary function	See Exhibit V-19	
22	Sex	Male	M
		Female	F
23-24	Year of birth	Last two digits of year of birth	
25	Ethnic group	American Indian	1
		Negro	2
		Oriental	3
		Spanish American	4
		Other	5
26	Marital status	Single	S
		Married	M

EXHIBIT V-21
Page 2 of 2

Punched Card Column	Item	Data	Code Number
27-28	Service date	Last two digits of year joined instructional staff	
29	Highest degree	Doctoral	1
		Master's	2
		First professional	3
		Bachelor's	4
		Associate	5
		Other	6
30-34	Institution granting highest degree	Federal educational institution code	
35-39	Institution granting first degree	Federal educational institution code	
	FACULTY PERSONNEL ONLY		
40-41	Year granted tenure	Last two digits of year granted tenure	
42-46	Field of study currently teaching	Office of Education item number	
47-48	Attrition code	Transfer	01
		Retirement	02
		Business	03
		Further study	04
		Leaves and sabbatical	05
		Other	06
49-51	Termination date	Month and year	
	FOR TRANSFERS ONLY		
52	Transfer	In state	1
		Out of state	2
		Out of country	3
53-57	Other college code	Federal educational institution code	
58-60	Foreign countries		

EXHIBIT V-22
Page 1 of 2

MISSOURI HIGHER EDUCATION

FRINGE BENEFITS RECORD

Punched Card Column	Item	Data	Code Number
1-2	Record type	Fringe benefit record	09
3	Level of offering	Junior college	1
		Four-year college	2
		University	3
		Special school (seminary)	4
4	Control	Public	2
		Private	
		Religious affiliation	6
		Other	8
5-6	Institution code		
7-8	Record year		
9-10	Type of benefit	Retirement plan	
		Vested	01
		Not vested	02
		Hospitalization, surgical and medical plans	03
		Guaranteed disability income protection	04
		Tuition plan	
		Cash grants	05
		Noncash grants	06
		Sabbatical plan	07
		Housing plan	
		Cash payments	08
		Subsidy estimate	09
		Social security taxes	10
		Unemployment compensation taxes	11
		Group life insurance	12
		Tax sheltered annuity	13

EXHIBIT V-22
Page 2 of 2

Punched Card Column	Item	Data	Code Number
11-16	Academic Deans	Total expenditures	
17-20		Number covered	
21-26	Professors	Total expenditures	
27-30		Number covered	
31-36	Associate Professors	Total expenditures	
37-40		Number covered	
41-46	Assistant Professors	Total expenditures	
47-50		Number covered	
51-56	Instructors	Total expenditures	
57-60		Number covered	
61-66	Junior staff	Total expenditures	
67-70		Number covered	
71-76	Other	Total expenditures	
77-80		Number covered	

VI - FACILITIES INFORMATION SUBSYSTEM

VI - FACILITIES INFORMATION SUBSYSTEM

The facilities information subsystem described in this chapter includes analyses of buildings and rooms of all higher education institutions in the State. These analyses will enable the Commission to coordinate and develop State higher education facilities more effectively. These analyses provide trend and comparative information on facilities, and are generally described in terms of dollar amounts or square feet per FTE student, with emphasis on instructional and office space.

This subsystem also provides analyses of instructional space utilization. These reports include information on average scheduled weekly hours for classrooms and laboratories, and the utilization of student stations within these rooms. Input information will be provided by each institution.

The following description of this subsystem includes the flow charts, formats of information and planning reports, and layouts of input records.

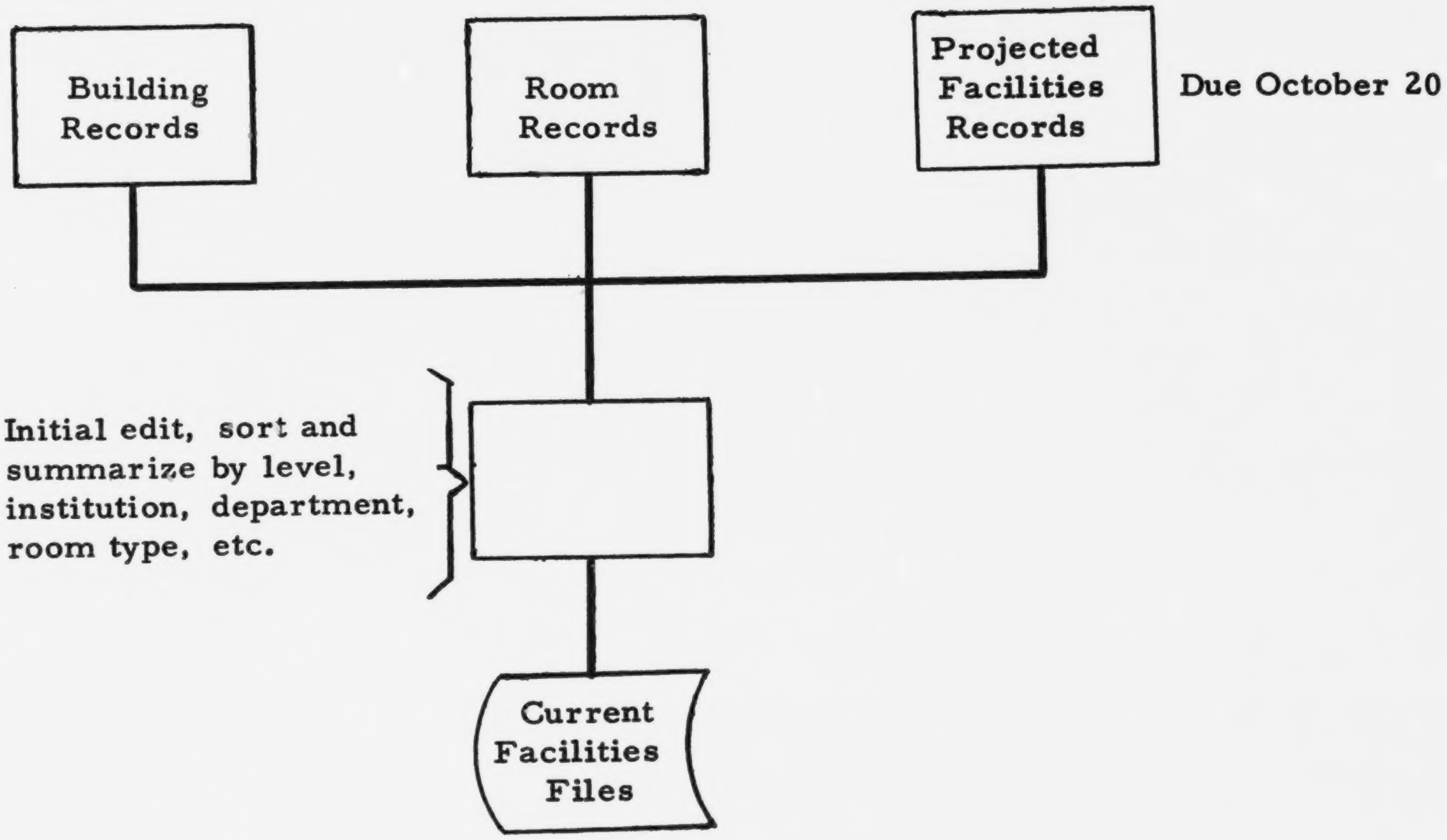
A - FLOW CHARTS

Exhibit Number	
VI-1	Creating Initial Files Or Processing Fall Facilities Data
VI-2	Updating Facilities History File
VI-3	Processing Planning Reports
VI-4	Processing Information Reports

EXHIBIT VI-1

MISSOURI HIGHER EDUCATION

CREATING INITIAL FILES OR PROCESSING FALL FACILITIES DATA


Building Records
Room Records
Projected Facilities Records
Current Facilities Files

Due October 20

Initial edit, sort and summarize by level, institution, department, room type, etc.

EXHIBIT VI-2

MISSOURI HIGHER EDUCATION

UPDATING FACILITIES HISTORY FILE

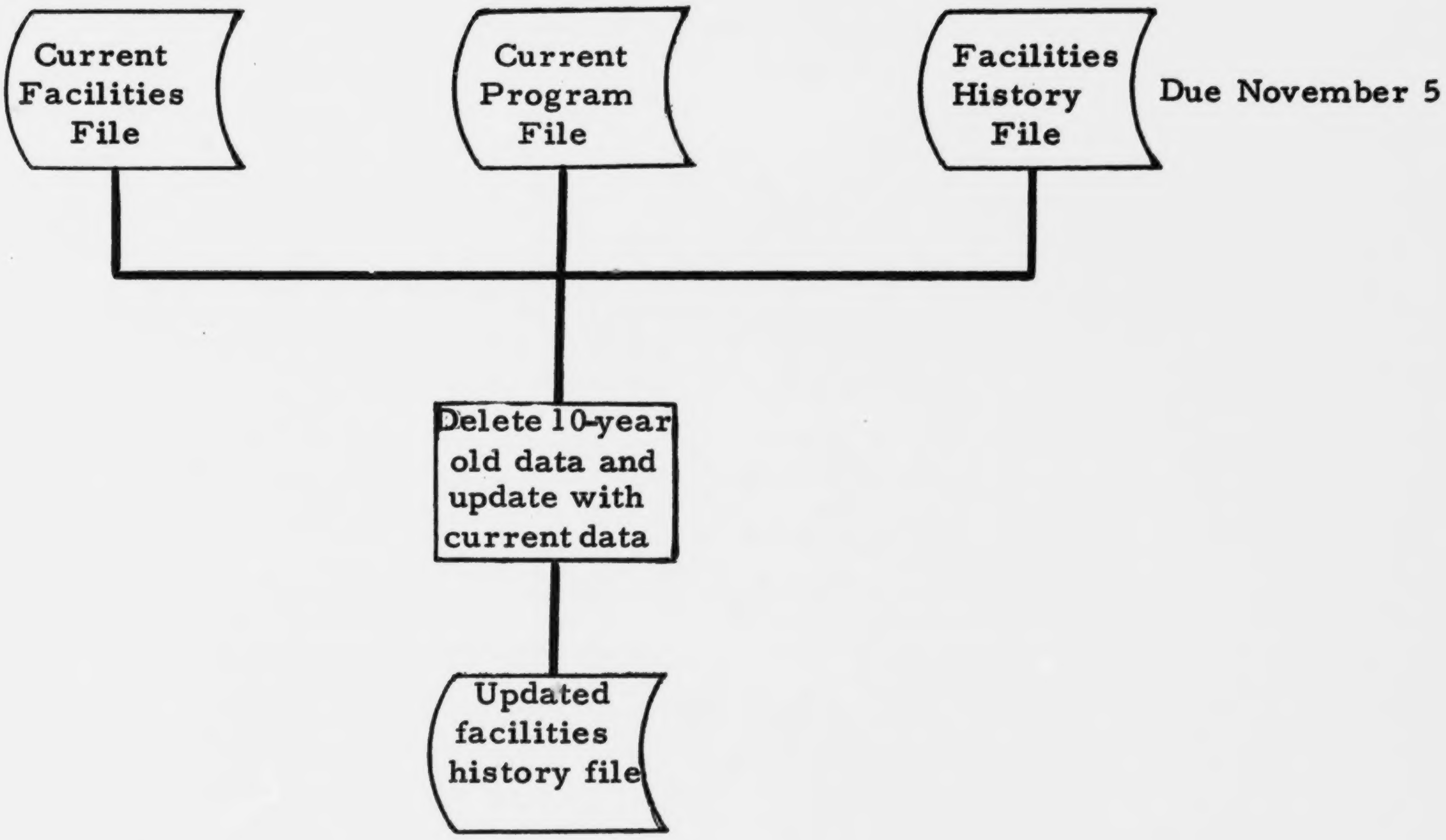

Current Facilities File
Current Program File
Facilities History File
Due November 5
Delete 10-year old data and update with current data
Updated facilities history file

EXHIBIT VI-3

MISSOURI HIGHER EDUCATION

PROCESSING PLANNING REPORTS

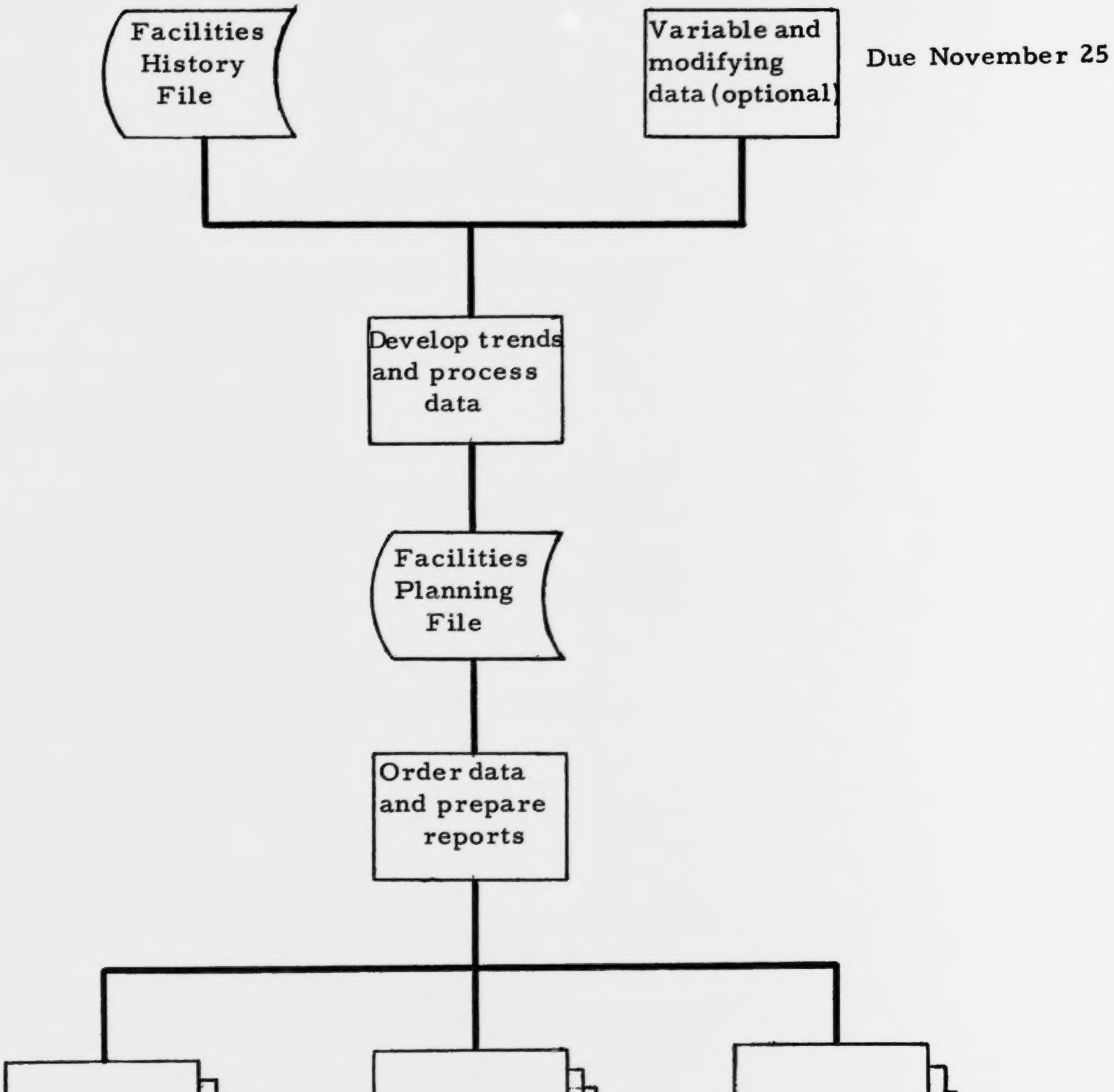
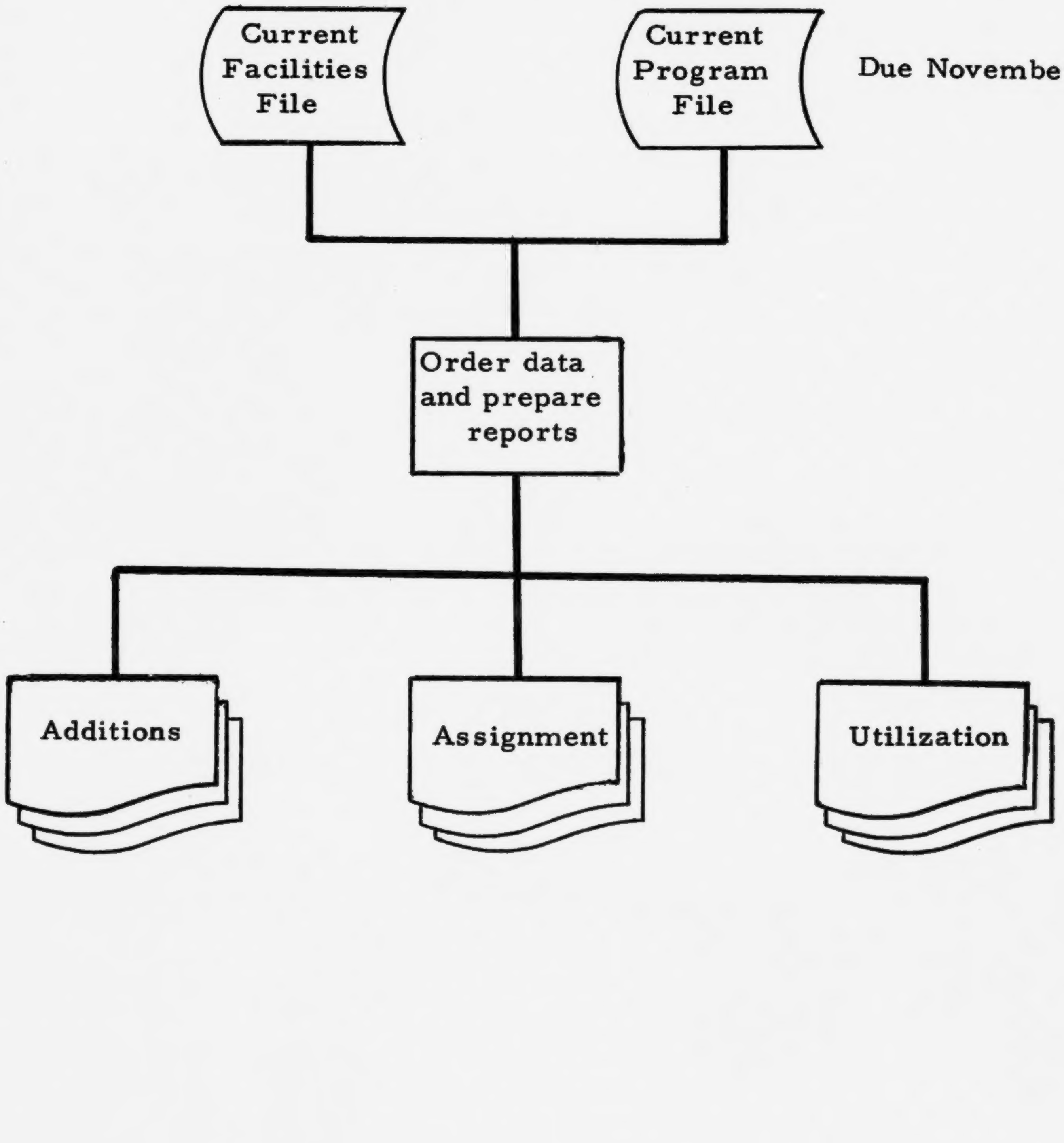

Facilities History File
Variable and modifying data (optional)
Due November 25
Develop trends and process data
Facilities Planning File
Order data and prepare reports
Additions
Assignment
Utilization

EXHIBIT VI-4

MISSOURI HIGHER EDUCATION

PROCESSING INFORMATION REPORTS


Current Facilities File
Current Program File
Order data and prepare reports
Additions
Assignment
Utilization

Due November 25

B - PLANNING REPORTS FOR FUTURE MISSOURI HIGHER EDUCATION

Exhibit Number

Additions
VI-5 Additions To Physical Plant At The Public University
VI-6 Building Costs

Assignment
VI-7 Space By Function At The Public University
VI-8 Space By Room Type At The Public University

Utilization
VI-9 Instruction Space Utilization At The Public University

EXHIBIT VI-5
Page 1 of 2

MISSOURI HIGHER EDUCATION

ADDITIONS TO PHYSICAL PLANT AT THE PUBLIC UNIVERSITY

(Thousands Of Dollars)

Nature Of Addition And Source Of Funds	Past Actual		Current	Projected				
	1958	1963	1968	1969	1970	1971	1973	1978
Estimated Expenditures								
Land								
Improvements other than buildings								
Buildings								
Educational and general								
Academic								
Instructional and library								
Other								
Other educational and general								
Housing and related								
Residence halls								
Family units								
Service								
Other auxiliary enterprises								
Subtotal								
Equipment								
Total								
Source Of Funds								
Federal government								
Housing and related								
All other								
State and local government								
Housing and related								
All other								

Other Available Versions

1. State colleges
2. Public junior colleges
3. Private insitutions by of offering
4. Individual institutions upon request

EXHIBIT VI-5
Page 2 of 2

Nature Of Addition And Source Of Funds	Past Actual		Current	Projected				
	1958	1963	1968	1969	1970	1971	1973	1978
Private								
Housing and related								
All other								
Total								

EXHIBIT VI-6
Page 1 of 2

MISSOURI HIGHER EDUCATION

BUILDING COSTS
(Average Amount Per Square Foot)

Type Of Building	Past Actual		Current	Projected				
	1958	1963	1968	1969	1970	1971	1973	1978
Public								
Junior colleges								
Educational and general								
Housing and related								
Other auxiliary enterprises								
State colleges								
Educational and general								
Housing and related								
Other auxiliary enterprises								
University								
Educational and general								
Housing and related								
Other auxiliary enterprises								
Private								
Junior colleges								
Educational and general								
Housing and related								
Other auxiliary enterprises								
Four-Year colleges								
Educational and general								
Housing and related								
Other auxiliary enterprises								

Other Available Versions

1. Individual public institutions by level of offering
2. Individual private institutions by level of offering upon request

EXHIBIT VI-6
Page 2 of 2

Type Of Building	Past Actual		Current	Projected				
	1958	1963	1968	1969	1970	1971	1973	1978
Universities								
Educational and general								
Housing and general								
Other auxiliary enterprises								
Total - All Institutions								
Educational and general								
Housing and related								
Other auxiliary enterprises								

EXHIBIT VI-7

MISSOURI HIGHER EDUCATION

SPACE BY FUNCTION AT THE PUBLIC UNIVERSITY

(Square Feet Per FTE Student)

Primary Function	Past Actual		Current	Projected				
	1958	1963	1968	1969	1970	1971	1973	1978
Assignable								
Instruction and research								
Organized activity units								
Organized research units								
Library								
General administration and institutional services								
Auxiliary services								
Noninstitutional services								
Unassigned								
Subtotal								
Nonassignable								
Total Space								
Assignable Space/Total Space Ratio								
Number Of FTE Students								
Capacity/Enrollment Ratio (Sum of instruction and research and library space/student clock hours)								

Other Available Versions

1. State colleges
2. Public junior colleges
3. Private institutions by level of offering
4. Individual institutions
5. Square feet per employee for other than instruction or instruction related functions upon request

EXHIBIT VI-8

MISSOURI HIGHER EDUCATION

SPACE BY ROOM TYPE AT THE PUBLIC UNIVERSITY
(Square Feet Per FTE Student)

Room Type	Past Actual		Current	Projected				
	1958	1963	1968	1969	1970	1971	1973	1978
Classroom								
Laboratory								
Office								
Study								
Special Use								
General Use								
Support								
Medical Care								
Residence								
Total								

Other Available Versions

1. State colleges
2. Public junior colleges
3. Private institutions by level of offering
4. Individual institutions

EXHIBIT VI-9

MISSOURI HIGHER EDUCATION

INSTRUCTION SPACE UTILIZATION AT THE PUBLIC UNIVERSITY

Utilization Measure	Past Actual		Current	Projected				
	1958	1963	1968	1969	1970	1971	1973	1978
Classroom Utilization								
Classrooms								
Number								
Average scheduled weekly hours								
Student stations								
Number								
Station hours available weekly(a)								
Station hours actually used weekly								
Per cent utilization								
Laboratory Utilization								
Laboratories								
Number								
Average scheduled weekly hours								
Student stations								
Number								
Station hours available weekly(a)								
Per cent utilization								

Other Available Versions

1. State colleges
2. Public junior colleges
3. Private institutions by level of offering
4. Instruction and research categories upon request

(a)Total number of student stations multipled by the average scheduled weekly hours.

C - INFORMATION REPORTS ON CURRENT FACILITIES

Exhibit Number	
	Additions
VI-10	Additions To Physical Plant At The Public University
	Assignment
VI-11	Space By Function
VI-12	Space By Room Type
VI-13	Space By Room Type And Function At The Public University
VI-14	Office Space
	Utilization
VI-15	Instruction Space Utilization
VI-16	Departmental Space Utilization At The Public University

EXHIBIT VI-10
Page 1 of 2

MISSOURI HIGHER EDUCATION

ADDITIONS TO PHYSICAL PLANT AT THE PUBLIC UNIVERSITY

(Thousands Of Dollars)

Nature Of Addition And Source Of Funds	University Of Missouri				
	Columbia	Rolla	Kansas City	St. Louis	Total
Estimated Expenditures					
Land					
Improvements other than buildings					
Buildings					
Educational and general					
Academic					
Instructional and library					
Other					
Other educational and general					
Housing and related					
Residence halls					
Family units					
Service					
Other auxiliary enterprises					
Subtotal					
Equipment					
Total					
Source Of Funds					
Federal government					
Housing and related					
All other					
State and local government					
Housing and related					
All other					

Other Available Versions

1. **State colleges**
2. **Public junior colleges**
3. **Private institutions by level of offering**
4. **Individual institutions upon request**

EXHIBIT VI-10
Page 2 of 2

Nature Of Addition And Source Of Funds	University Of Missouri				
	Columbia	Rolla	Kansas City	St. Louis	Total
Private					
Housing and related					
All other					
Total					

EXHIBIT VI-11
Page 1 of 2

MISSOURI HIGHER EDUCATION

SPACE BY FUNCTION

(Square Feet Per FTE Student)

Primary Function	University Of Missouri					St. Louis University	Washington University
	Columbia	Rolla	Kansas City	St. Louis	Total		
Assignable							
Instruction and research							
Organized activity units							
Organized research units							
Library							
General administration and institutional services							
Auxiliary services							
Noninstitutional services							
Unassigned							
Subtotal							
Nonassignable							
Total Space							
Assignable Space/Total Space Ratio							
Number of FTE Students							
Capacity/Enrollment Ratio (Sum of instruction and research and library space/ student clock hours)							

Other Available Versions

1. State colleges
2. Public junior colleges
3. Private institutions by level of offering

EXHIBIT VI-11
Page 2 of 2

Primary Function	University of Missouri					St. Louis University	Washington University
	Columbia	Rolla	Kansas City	St. Louis	Total		
Assignable Space/ Total Space Ratio							
Number of FTE Students							
Capacity/Enrollment Ratio (Sum of Instruction and Research and Library space/student clock hours).							

EXHIBIT VI-12

MISSOURI HIGHER EDUCATION

SPACE BY ROOM TYPE
(Square Feet Per FTE Student)

Room Type	Public				Private				
	Junior Colleges	State Colleges	University	Average	Junior Colleges	Four-Year Colleges	Universities	Average	Missouri Average
Classroom									
Laboratory									
Office									
Study									
Special Use									
General Use									
Support									
Medical Care									
Residence									
Total									

Other Available Versions

1. **Individual institutions by level of offering and control**
2. **Universities**

EXHIBIT VI-13
Page 1 of 3

MISSOURI HIGHER EDUCATION

SPACE BY ROOM TYPE AND FUNCTION AT THE PUBLIC UNIVERSITY

(Square Feet Per FTE Student)

Primary Function	Office of Education Facilities Code	Type Of Room									
		Class-Room	Laboratory	Office	Study	Special Use	General Use	Support	Medical Care	Residence	Total
Instruction And Research	1000										
General or unclassified	1100										
Life sciences	1200										
Health sciences	1230										
Medicine	1231										
Veterinary medicine	1232										
Dentistry	1233										
Nursing	1234										
Pharmacy	1235										
Public health	1236										
Other health	1238										
General health	1239										
Other life sciences	1299										
Subtotal											
Mathematic, computer, physical and engineering sciences	1300										
Behavioral sciences	1400										
Humanities	1500										
Professions	1600										
Technical-Vocational	1700										
Physical education and military science	1800										
Total Instruction and Research											

Other Available Versions

1. State colleges
2. Public junior colleges
3. Private institutions by level of offering
4. Individual institutions upon request

EXHIBIT VI-13
Page 2 of 3

Primary Function	Office Of Education Facilities Code	Type Of Room									
		Class-Room	Lab-oratory	Office	Study	Special Use	General Use	Support	Medical Care	Resi-dence	Total
Organized Activity Units	2000										
Organized Research Units	3000										
General or unclassified	3100										
Life sciences	3200										
Health sciences	3230										
Medicine	3231										
Veterinary medicine	3232										
Dentistry	3233										
Nursing	3234										
Pharmacy	3235										
Public health	3236										
Other health	3238										
General health	3239										
Other life sciences	3299										
Subtotal											
Mathematic, computer, physical and engineering sciences	3300										
Behavioral sciences	3400										
Humanities	3500										
Professions	3600										
Technical-vocational	3700										
Physical education and military science	3800										
Total Organized Research											

EXHIBIT VI-13
Page 3 of 3

Primary Function	Office Of Education Facilities Code	Type Of Room									
		Class-Room	Lab-oratory	Office	Study	Special Use	General Use	Support	Medical Care	Resi-dence	Total
Public Service Units	4000										
Library	5000										
General Administration and Institutional Services	6000										
Auxiliary Services	7000										
Noninstitutional Agencies	8000										
Unassigned	9000										
Total Assignable Space											
Nonassignable Space	000										
Grand Total Space											

EXHIBIT VI-14

MISSOURI HIGHER EDUCATION

OFFICE SPACE
(Square Feet Per Full-Time Professional Employee)

Primary Function	University Of Missouri					St. Louis University	Washington University
	Columbia	Rolla	Kansas City	St. Louis	Total		
Instruction And Research							
Organized Activity Units							
Organized Research Units							
Library							
General Administration And Institutional Services							
Auxiliary Services							
Noninstitutional Services							
Unassigned							
Total Number Of Full-Time Professional Employees							

Other Available Versions

1. State colleges
2. Public junior colleges
3. Private institutions by level of offering

EXHIBIT VI-15

MISSOURI HIGHER EDUCATION

INSTRUCTION SPACE UTILIZATION

Utilization Measure	University Of Missouri					St. Louis University	Washington University
	Columbia	Rolla	Kansas City	St. Louis	Total		
Classroom Utilization							
Classrooms							
Number							
Average scheduled weekly hours							
Student stations							
Number							
Station hours available weekly(a)							
Station hours actually used weekly							
Per cent utilization							
Laboratory Utilization							
Laboratories							
Number							
Average scheduled weekly hour							
Student stations							
Number							
Station hours available weekly(a)							
Station hours actually used weekly							
Per cent utilization							

Other Available Versions
1. State colleges
2. Public junior colleges
3. Private institutions by level of offering

(a)Total number of student stations multiplied by the average scheduled weekly hours.

EXHIBIT VI-16

MISSOURI HIGHER EDUCATION

DEPARTMENTAL SPACE UTILIZATION AT THE PUBLIC UNIVERSITY

Department Of Instruction And Research	Office Of Education Facilities Code	Classrooms		Student Stations			
		Number	Average Scheduled Weekly Hours	Number	Station Hours Available Weekly(a)	Station Hours Actually Used	Per Cent Utilization
General Or Unclassified	1100						
Life Sciences	1200						
Health sciences	1230						
Medicine	1231						
Veterinary medicine	1232						
Dentistry	1233						
Nursing	1234						
Pharmacy	1235						
Public health	1236						
Other health	1238						
General health	1239						
Other life sciences	1299						
Subtotal							
Mathematic, Computer, Physical And Engineering Sciences	1300						
Behavioral Science	1400						
Humanities	1500						
Professions	1600						
Technical-Vocational	1700						
Physical Education And Military Science	1800						
Total							

(a) Total number of student stations multiplied by average scheduled weekly hours.

Other Available Versions

1. Laboratory utilization
2. State colleges
3. Public junior colleges
4. Private institutions by level of offering

D - RECORD LAYOUTS

Exhibit Number	
VI-17	Projected Facilities Record: Actual Expenditures, 1962-63 Through 1966-67
VI-18	Projected Facilities Record: Source Of Funds, 1962-63 Through 1966-67
VI-19	Projected Facilities Record: Estimated Expenditures, 1967-68 Through 1971-72
VI-20	Projected Facilities Record: Source Of Funds, 1967-68 Through 1971-72
VI-21	Projected Facilities Record: Estimated Expenditures, 1972-73 Through 1976-77
VI-22	Projected Facilities Record: Source Of Funds, 1972-73 Through 1976-77
VI-23	Building Record
VI-24	Room Record
VI-25	Room Primary Function Code List

EXHIBIT VI-17

MISSOURI HIGHER EDUCATION

PROJECTED FACILITIES RECORD: ACTUAL EXPENDITURES

1962-63 Through 1966-67

Punched Card Column	Item	Data	Code Number
1-2	Record type	Projected facilities record	30
3	Level of offering	Junior college	1
		Four-year college	2
		University	3
		Special school (seminary)	4
4	Control	Public	2
		Private	
		Religious affiliation	6
		Other	8
5-6	Institution code		
7-9	Record date	Month and year	
10-15	Land	Thousands of dollars	
16-21	Improvements other than buildings	Thousands of dollars	
22-27	Buildings - instructional and library	Thousands of dollars	
28-33	Buildings - other academic	Thousands of dollars	
34-39	Buildings - other educational and general	Thousands of dollars	
40-45	Buildings - residence halls	Thousands of dollars	
46-51	Buildings - family units	Thousands of dollars	
52-57	Buildings - service facilities	Thousands of dollars	
58-63	Equipment	Thousands of dollars	

Note: Projected facilities data will be taken from Higher Education General Information Survey (HEGIS) Form OE-2300-6.

EXHIBIT VI-18

MISSOURI HIGHER EDUCATION

PROJECTED FACILITIES RECORD: SOURCE OF FUNDS
1962-63 Through 1966-67

Punched Card Column	Item	Data	Code Number
1-2	Record type	Projected facilities record	31
3-4	Institution code		
5-7	Record date	Month and year	
8-13	Federal government - housing and related	Thousands of dollars	
14-19	Federal government - all other	Thousands of dollars	
20-25	State and local government - housing and related	Thousands of dollars	
26-31	State and local government - all other	Thousands of dollars	
32-37	Private - housing and related	Thousands of dollars	
38-43	Private - all other	Thousands of dollars	

EXHIBIT VI-19

MISSOURI HIGHER EDUCATION

PROJECTED FACILITIES RECORD: ESTIMATED EXPENDITURES
1967-68 Through 1971-72

Punched Card Column	Item	Data	Code Number
1-2	Record type	Projected facilities record	32
3	Level of offering	Junior college	1
		Four-year college	2
		University	3
		Special school (seminary)	4
4	Control	Public	2
		Private	
		Religious affiliation	6
		Other	8
5-6	Institution code		
7-9	Record date	Month and year	
10-15	Land	Thousands of dollars	
16-21	Improvements other than buildings	Thousands of dollars	
22-27	Buildings - instructional and library	Thousands of dollars	
28-33	Buildings - other academic	Thousands of dollars	
34-39	Buildings - other educational and general	Thousands of dollars	
40-45	Buildings - residence halls	Thousands of dollars	
46-51	Buildings - family units	Thousands of dollars	
52-57	Buildings - service facilities	Thousands of dollars	
58-63	Equipment	Thousands of dollars	

Note: Projected facilities data will be taken from Higher Education General Information Survey (HEGIS) Form OE-2300-6.

EXHIBIT VI-20

MISSOURI HIGHER EDUCATION

PROJECTED FACILITIES RECORD: SOURCE OF FUNDS

1967-68 Through 1971-72

Punched Card Column	Item	Data	Code Number
1-2	Record type	Projected facilities record	33
3-4	Institution code		
5-7	Record date	Month and year	
8-13	Federal government - housing and related	Thousands of dollars	
14-19	Federal government - all other	Thousands of dollars	
20-25	State and local government - housing and related	Thousands of dollars	
26-31	State and local government - all other	Thousands of dollars	
32-37	Private - housing and related	Thousands of dollars	
38-43	Private - all other	Thousands of dollars	

EXHIBIT VI-21

MISSOURI HIGHER EDUCATION

PROJECTED FACILITIES RECORD: ESTIMATED EXPENDITURES

1972-73 Through 1976-77

Punched Card Column	Item	Data	Code Number
1-2	Record type	Projected facilities record	34
3	Level of offering	Junior college	1
		Four-year college	2
		University	3
		Special school (seminary)	4
4	Control	Public	2
		Private	
		Religious affiliation	6
		Other	8
5-6	Institution code		
7-9	Record date	Month and year	
10-15	Land	Thousands of dollars	
16-21	Improvements other than buildings	Thousands of dollars	
22-27	Buildings - instructional and library	Thousands of dollars	
28-33	Buildings - other academic	Thousands of dollars	
34-39	Buildings - other educational and general	Thousands of dollars	
40-45	Buildings - residence halls	Thousands of dollars	
46-51	Buildings - family units	Thousands of dollars	
52-57	Buildings - service facilities	Thousands of dollars	
58-63	Equipment	Thousands of dollars	

Note: Projected facilities data will be taken from Higher Education General Information Survey (HEGIS) Form OE-2300-6.

EXHIBIT VI-22

MISSOURI HIGHER EDUCATION

PROJECTED FACILITIES RECORD: SOURCE OF FUNDS

1972-73 Through 1976-77

Punched Card Column	Item	Data	Code Number
1-2	Record type	Projected facilities record	35
3-4	Institution code		
5-7	Record date	Month and year	
8-13	Federal government - housing and related	Thousands of dollars	
14-19	Federal government - all other	Thousands of dollars	
20-25	State and local government - housing and related	Thousands of dollars	
26-31	State and local government - all other	Thousands of dollars	
32-37	Private - housing and related	Thousands of dollars	
38-43	Private - all other	Thousands of dollars	

EXHIBIT VI-23

MISSOURI HIGHER EDUCATION

BUILDING RECORD

Punched Card Column	Item	Data	Code Number
1-2	Record type	Building record	36
3	Level of offering	Junior college	1
		Four-year college	2
		University	3
		Special school (seminary)	4
4	Control	Public	2
		Private	
		Religious affiliation	6
		Other	8
5-6	Institution code		
7-9	Record date	Month and year	
10-12	Building code	Institution building code	
13	Type of building	Education and general	1
		Housing and related	2
		Other	3
14-21	Gross area	Square feet	
22-28	Net area	Square feet	
29-31	Date of contruction	Month and year	
32-40	Original cost	Whole dollar amount	
	Most recent remodel		
41-43	Date	Month and year	
44-52	Cumulative cost of remodeling	Whole dollar amounts	

EXHIBIT VI-24

MISSOURI HIGHER EDUCATION

ROOM RECORD

Punched Card Column	Item	Data	Code Number
1-2	Record type	Room record	37
3	Level of offering	Junior college	1
		Four-year college	2
		University	3
		Special school (seminary)	4
4	Control	Public	2
		Private	
		Religious affiliation	6
		Other	8
5-6	Institution code		
7-9	Record date	Month and year	
10-12	Building code	Institution building code	
13-17	Room number		
18-21	Primary function	See Exhibit VI-25	
22-24	Room type		
25-29	Gross area	Square feet	
30-33	Student stations	Total number	

EXHIBIT VI-25
Page 1 of 2

ROOM PRIMARY FUNCTION CODE LIST

Primary Function	Code Number(a)
Department Of Instruction And Research	1000
General or unclassified	1100
Life Sciences	1200
Health Sciences	1230
Medicine	1231
Veterinary Medicine	1232
Dentistry	1233
Nursing	1234
Pharmacy	1235
Public Health	1236
Other Health	1238
General Health	1239
All Other Life Sciences	1299
Mathematical, Computer, Physical and Engineering Sciences	1300
Behavioral Sciences	1400
Humanities	1500
Professions	1600
Technical - Vocational	1700
Physical Education and Military Science	1800
Organized Activity Units	2000
Organized Research Units	3000
General or unclassified	3100
Life Sciences	3200
Health Sciences	3230
Medicine	3231
Veterinary Medicine	3232
Dentistry	3233
Nursing	3234
Pharmacy	3235
Public Health	3236
Other Health	3238
General Health	3239
All Other Life Sciences	3299

Primary Function	Code Number(a)
Mathematical, Computer, Physical and Engineering Sciences	3300
Behavioral Sciences	3400
Humanities	3500
Professions	3600
Technical-Vocational	3700
Physical Education and Military Science	3800
Public Service Units	4000
Library	5000
Central Administration And Institutional Services	6000
Auxiliary Services	7000
Noninstitutional Agencies	8000
Unassigned	9000
Nonassignable	000

(a)Office of Education item number.

VII - MANAGEMENT INFORMATION SYSTEM DEFINITIONS

VII - MANAGEMENT INFORMATION SYSTEM DEFINITIONS

A draft of the definitions has been furnished to the Commission as a separate document. This document will be reviewed and finalized by a committee of Missouri college representatives.

VIII - PLAN OF ACTION

VIII - PLAN OF ACTION

This chapter sets forth the steps necessary to install the proposed higher education information system, together with an estimate of the equipment, manpower and other resources required.

PRELIMINARY STEPS

Obtain Agreement In Principle

If the institutions of higher education and the State are to obtain the benefits of an improved information system, the Commission, the Executive Secretary and the institutions must agree that this is a practical system that should be implemented.

Assign Full Responsibility For Accomplishing This Program To The Executive Secretary

It is necessary to have a single person responsible for accomplishing this installation project.

Assign One Full-Time Commission Employee Knowledgeable In Data Processing To Participate In The Detailed Design And Installation Effort

The Director of Institution Research should be largely responsible for this work.

Establish Specific Subprojects And Accomplishment Milestones

Prepare detailed write-ups complete with time schedules and cost budgets, where applicable, for each of the recommended installation steps.

Assign specific responsibility for project accomplishment.

Establish firm accomplishment milestones, and provide adequate resources for reaching them.

SUGGESTED IMPLEMENTATION PLAN

Exhibit VIII-1, following, lists the steps necessary to install the system. The exhibit also shows recommended responsibility assignments, an estimate of the number of man-weeks of outside technical assistance required, and suggested priorities. This plan should be updated after the specific steps are authorized and responsibilities are assigned to specific individuals.

MINIMUM DATA PROCESSING EQUIPMENT REQUIREMENTS

While a detailed equipment study has not been made (this is suggested as step 3 in the detailed installation plan), the data processing equipment configuration required for the recommended information system must have the following characteristics:

- Core storage or its equivalent in the range of 16,000 to 32,000 bytes
- Magnetic tape or disk input-output devices
- High-speed card input or off-line card-to-tape/disk capability
- High-speed printer output or off-line tape/disk-to-print capability
- Capability to accept higher-level programming languages such as COBOL.

ESTIMATED PROGRAMMING REQUIREMENTS

Estimating the man-weeks required for coding, testing and documenting the necessary programs was approached as follows.

- Programs were classified according to type and degree of difficulty.
- The man-weeks required for developing individual programs were estimated, relative to the classifications identified above, as shown in Exhibit VIII-2.
- The system flow charts were reviewed to determine the total number of programs required, by classification.
- Man-weeks of programming effort were calculated and summarized from these data (see Exhibit VIII-3).

EXHIBIT VIII-1

MISSOURI HIGHER EDUCATION

SCHEDULE FOR IMPLEMENTATION

Number	Step	Recommended Responsibility Assignment	Estimated Man-Weeks Of Outside Technical Assistance Required: Project Coordination And EDP Systems	Estimated Man-Weeks Of Outside Technical Assistance Required: Programming	Suggested Priority
1	Obtain agreement on priority of subsystem conversions after consulting with public and private institutions and State officials	Executive Secretary	-	-	Immediate
2	Establish framework for coordinating and controlling the detailed design of the information system	Executive Secretary	None	None	Immediate
3	Determine detailed equipment requirements and arrange to obtain its use	Executive Secretary	2	None	Immediate
4	Make arrangements to secure necessary systems and programming manpower	Executive Secretary	None	None	Immediate
5	Design subsystems in detail:	Director of Institutional Research/Installation Team			
	Student		13	None	First
	Program		4	None	Second
	Financial		10	None	Third
	Personnel		9	None	Fourth
	Facilities		7	None	Fifth
6	Select colleges for pilot installation	Executive Secretary	None	None	-
7	Review detailed design with colleges selected for pilot installation	Director of Institutional Research	2	None	-
8	Code, test and document required programs:	Director of Institutional Research/Installation Team			
	Student		None	84	First
	Program		None	25	Second
	Financial		None	67	Third
	Personnel		None	62	Fourth
	Facilities		None	46	Fifth
9	Convert individual subsystems for pilot installation	Director of Institutional Research/Installation Team	5	None	-
10	Evaluate pilot installation and modify detailed design as required	Executive Secretary/ Installation Team	4	None	-
11	Convert all institutions	Director of Institutional Research/Installation Team	Not determined as yet	Not determined as yet	-
Total			56	284	

EXHIBIT VIII-2

MISSOURI HIGHER EDUCATION

PROGRAMMING MAN-WEEKS REQUIRED, BY TYPE OF PROGRAM AND DEGREE OF DIFFICULTY

	Man-Weeks Required, By Degree Of Programming Difficulty		
Type Of Program	Easy	Medium	Difficult
Standard Utilities	1		
File Maintenance	3	5	8
Planning Report		5	7
Information Report	3	5	7

EXHIBIT VIII-3

MISSOURI HIGHER EDUCATION

ESTIMATED PROGRAMMING REQUIREMENTS

Type Of Program	Number Of Programs, By Degree Of Difficulty			Total Man-Weeks Required
	Easy	Medium	Difficult	
Student				
Standard utilities	4	-	-	4
File maintenance	6	-	-	18
Planning report	-	6	1	37
Information report	5	2	-	25
Subtotal	15	8	1	84
Program				
Standard utilities	1	-	-	1
File maintenance	1	-	-	3
Planning report	-	1	1	12
Information report	3	-	-	9
Subtotal	5	1	1	25
Financial				
Standard utilities	2	-	-	2
File maintenance	1	2	-	13
Planning report	-	5	1	32
Information report	-	4	-	20
Subtotal	3	11	1	67
Personnel				
Standard utilities	2	-	-	2
File maintenance	1	1	-	8
Planning report	-	5	1	32
Information report	-	4	-	20
Subtotal	3	10	1	62
Facilities				
Standard utilities	1	-	-	1
File maintenance	1	1	-	8
Planning report	-	3	1	22
Information report	-	3	-	15
Subtotal	2	7	1	46
Total	28	37	5	284

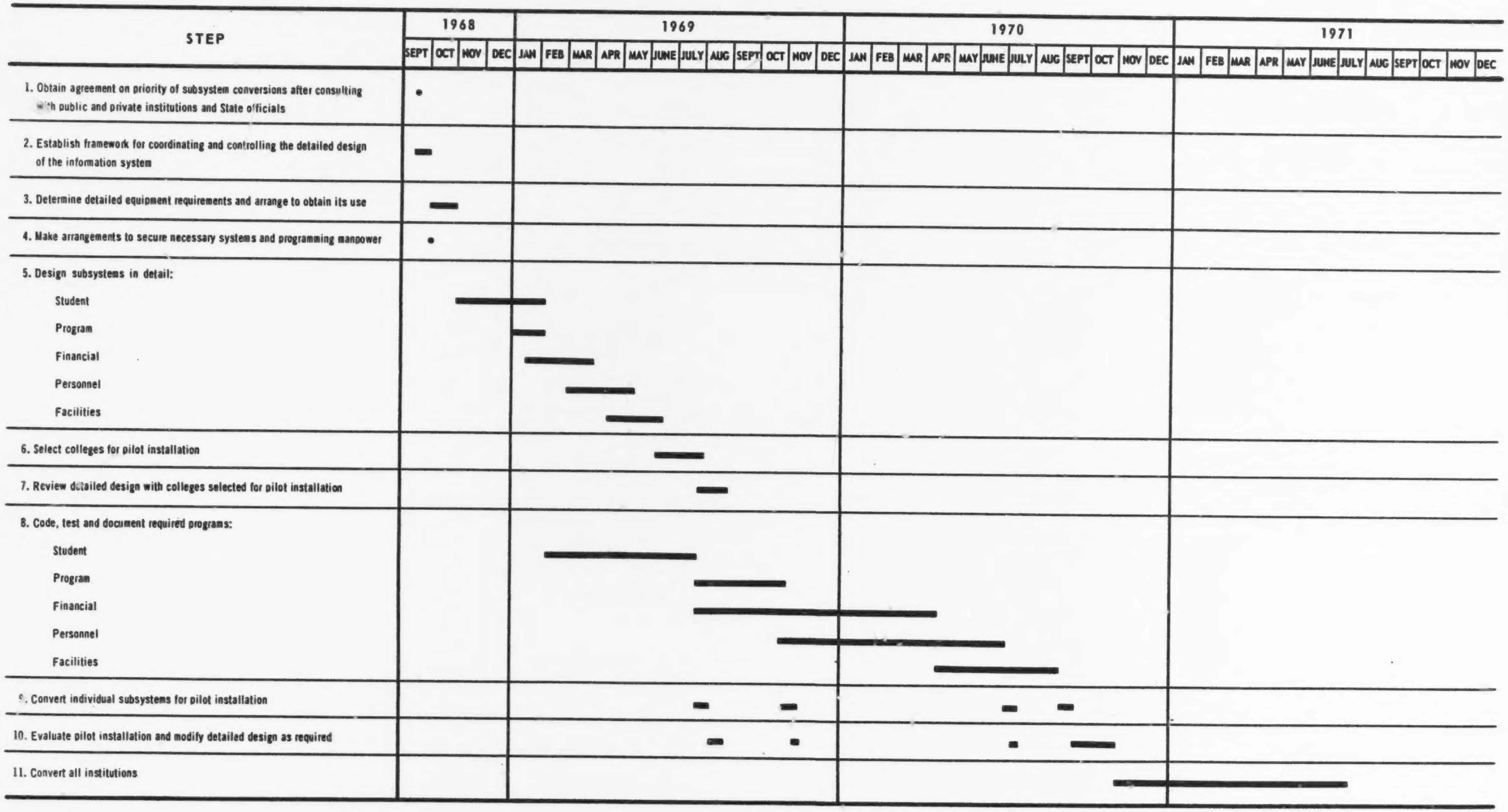
IMPLEMENTATION TIMETABLE

An implementation timetable has been developed on the basis of the systems and programming requirements identified previously. The requirements have been subdivided by task, as on Exhibit VIII-1. Exhibit VIII-4, following, shows the resulting timetable, assuming that preliminary steps are taken in September 1968, and necessary systems and programming resources are committed in October. For planning purposes, it is estimated that the equivalent of four full-time programmers will be assigned to this effort.

EXHIBIT VIII-4

MISSOURI HIGHER EDUCATION

IMPLEMENTATION TIMETABLE



1. Obtain agreement on priority of subsystem conversions after consulting with public and private institutions and State officials
2. Establish framework for coordinating and controlling the detailed design of the information system
3. Determine detailed equipment requirements and arrange to obtain its use
4. Make arrangements to secure necessary systems and programming manpower
5. Design subsystems in detail:
    - Student
    - Program
    - Financial
    - Personnel
    - Facilities
6. Select colleges for pilot installation
7. Review detailed design with colleges selected for pilot installation
8. Code, test and document required programs:
    - Student
    - Program
    - Financial
    - Personnel
    - Facilities
9. Convert individual subsystems for pilot installation
10. Evaluate pilot installation and modify detailed design as required
11. Convert all institutions